

PACIFIC PULP & PAPER INDUSTRY

November

1936

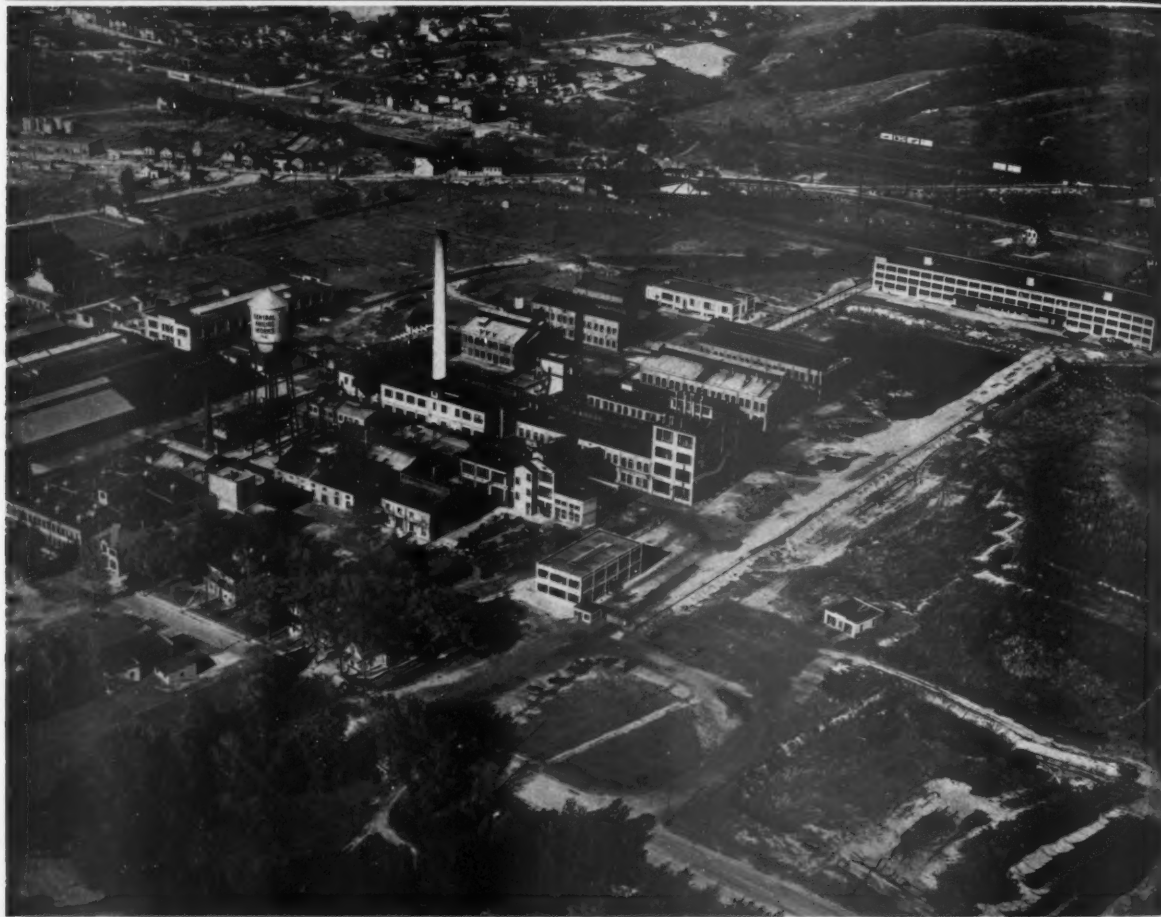
VOLUME 10
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SHELTON, WASHINGTON

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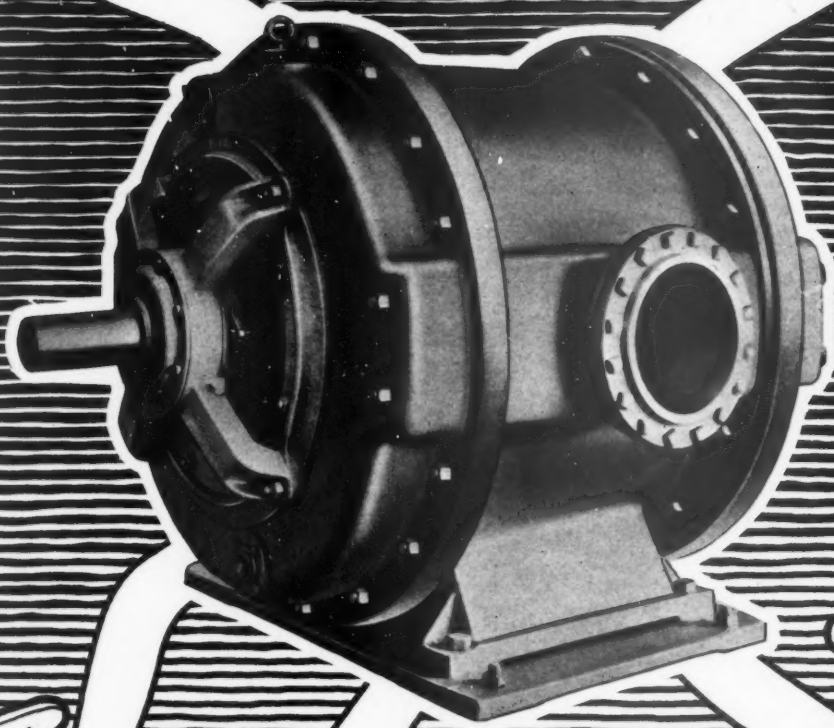


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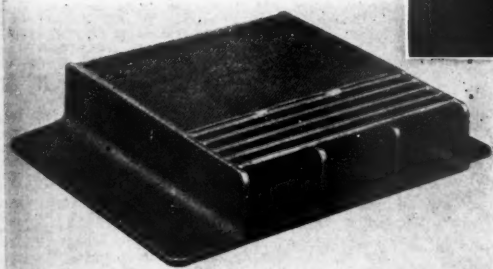
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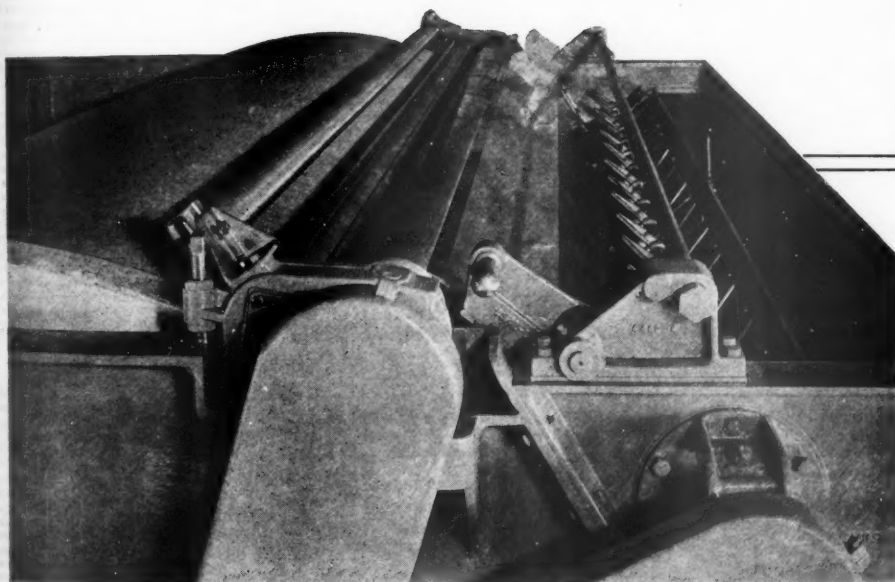
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(At Left) Cross section of metal water channels, smooth surfaces, stream line flow, proper velocity, no accumulation or sliming. Smooth spirally wound wire support for filter face, maximum drainage, no undercover.



Positive alignment
conical valve and
valve seat.

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pulp discharger.

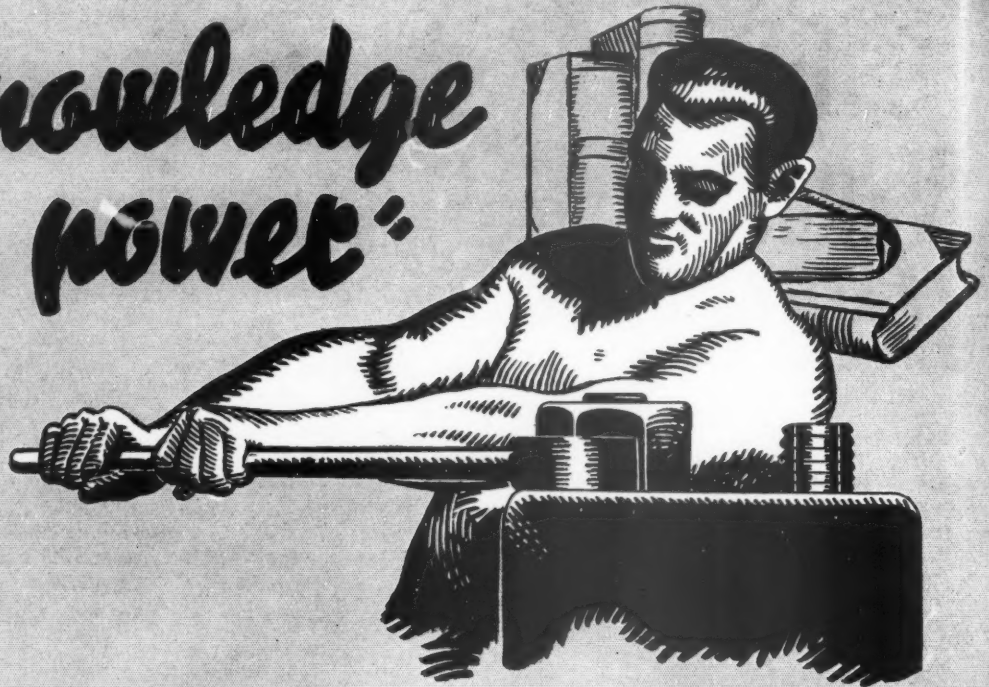
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PACIFIC PULP & PAPER INDUSTRY

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NOVEMBER • 1936

RAINIER CONTRACTS FOR SHAFFER'S ENTIRE OUTPUT

Shaffer Increasing Production to 125 Tons Daily—Rainier
Expanding Screening, Bleaching and Drying Capacity

"A new development in Tacoma's industrial life was announced late in October by Arthur W. Berggren, president of The Shaffer Pulp Company, Inc., which will increase the size of the present plant on the Hylebos Waterway and increase the monthly payroll to between \$21,000 and \$22,000 a month.

"The pulp company has contracted its output to the Rainier Pulp & Paper Company of Shelton and will increase the capacity of its plant at once to meet the new business. The quality of pulp will also be refined as the contract with the Shelton firm calls for rayon pulp.

"Under the new arrangement the Shaffer plant will employ 225 men in-

stead of 160 as at present and the output will be increased to 125 tons of pulp a day of 24 hours.

"Coming as it does in the wake of the immense development of the St. Regis plant, Mr. Berggren's announcement adds news stimulus to the development of Tacoma's tide flat industrial area."

The above announcement was officially released by Arthur W. Berggren, president of The Shaffer Pulp Company, Inc., on October 20th.

Deliveries of Shaffer pulp to the Rainier Pulp & Paper Company's mill at Shelton, Washington, will begin sometime in March, 1937, immediately upon the completion of the expansion program in the Shaffer mill and the changes necessary in the Rainier plant to accommodate the new tonnage of approximately 125 tons per day. As soon as deliveries begin The Shaffer Pulp Company will withdraw from the pulp market, and the company's customers have already been notified of the contract with the Rainier Pulp & Paper Company for the entire output.

Enlargement of the Shaffer pulp mill is being carried out under the direction of Stanley J. Selden, pulp and paper mill engineer of Tacoma, who is in charge of the engineering and construction work.

Changes under way which are required to bring the Shaffer mill up to 125 tons of pulp per day include a third digester, a new blowpit, enlargement of the acid coolers and acid storage tanks. The acid towers already have sufficient capacity. A circulating system is to be installed on all three digesters. Equipment for these systems as well as all stainless steel piping is to be supplied by the Electric Steel Foundry Company of Portland.

Additional sections will be added to the tailings screens. Two new Woods washers (designed by superintendent A. D. Wood) will be installed for stock washing.

Other refinements of equipment and

methods will be installed to provide daily production of uniform high quality rayon pulp.

The pulp from the Shaffer mill will be shipped to the Rainier Pulp & Paper Company's mill at Shelton in partially dried form.

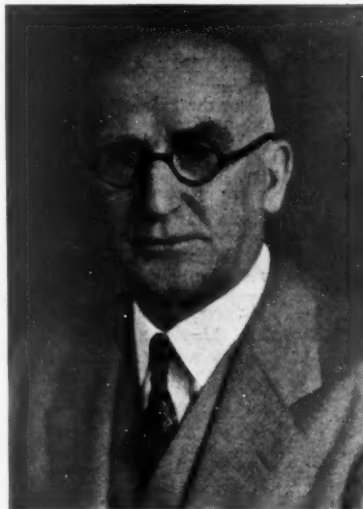
A. D. Wood is superintendent of the Shaffer Pulp Company, Inc.

Rainier Improvements

To take care of the approximately 125 tons per day of unbleached sulphite pulp coming from the Shaffer mill in Tacoma, the Rainier Pulp & Paper Company has under way a new concrete warehouse of fifty by one hundred and fifty feet and twenty feet in height. The



STANLEY J. SELDEN
In Charge of
Engineering and Construction
Shaffer Pulp Co.



A. D. WOOD
Superintendent Shaffer
Pulp Company

building is being designed so that later it may be used for housing additional manufacturing equipment. The new building will occupy the area in front of the office previously covered with sheds for the cars of employees. These have been moved over onto property of the Reed Mill Company.

Other changes at Rainier brought about by the contract with the Shaffer Pulp Company includes expansion of bleach plant capacity, for the Shaffer pulp will be received in unbleached form. Additional screening capacity will also be provided, and there will be an expansion of the plant's drying capacity to handle the Shaffer pulp.

The pulp purchased from the Shaffer mill will be refined to produce the Rainier Company's well known "Rayonier" pulp which is used throughout the world for rayon and cellophane manufacture.

It is aimed to have the changes in the Rainier mill completed by March 1st, and on that date production of rayon pulp on the Pacific Coast will be enlarged by about 125 tons per day, and likewise the Pacific Coast production of unbleached sulphite pulp will be reduced by approximately 65 tons per day.

General manager David B. Davies of the Rainier Pulp and Paper Company stated before he left on an extended Eastern trip October 16th, that the changes at Shelton would result in the employment of about fifty additional men.

The Rainier Pulp & Paper Company has pioneered the manufacture of rayon and cellophane pulps on the Pacific Coast and has been eminently successful in marketing it not only in the United States but in Japan and other countries prominent in the production of rayon.

WEYERHAEUSER TO ADD DIGESTER

The Pulp Division of the Weyerhaeuser Timber Company in Longview plans to add another digester to enable the mill to maintain full production while the older digesters are temporarily shut down for relining.

Work will begin about the first of the year and the new digester, which will be of the same size as the present ones, will be ready for operation about June 1st, 1937.

SHOLDEBRAND NEW SULPHITE SUPERINTENDENT AT HAWLEY

Carl Sholdebrand is now sulphite superintendent for the Hawley Pulp & Paper Company at Oregon City, Oregon, succeeding Robert Sipes, who has resigned on account of ill health.

Mr. Sholdebrand has been associated with Mr. A. H. Lundberg, who represents Chemipulp Processes, Inc., G. D. Jensen Company, and Paper & Industrial Appliances, since coming to the Pacific Coast a year ago.

INSTALL LAMINATING MACHINE

Boxboard Products Co., San Francisco, R. J. Gruenberg, president, recently installed a laminating machine and is making specialty grades of board such as glassine-lined, greaseproof-lined, bristol board and fancy colored box board.

THE COVER PHOTOGRAPH

The aerial photograph on the cover of the Rainier Pulp & Paper Company's bleached sulphite pulp mill at Shelton, Washington, was taken by the Pacific Aerial Surveys, Inc., of Seattle, Washington.

PORT MELLON SAWMILL TO START SOON

The big sawmill to be run in connection with the Port Mellon Operating Company on Howe Sound, British Columbia, will be in operation in a few weeks. The average daily capacity will be 200,000 feet.

Under the direction of Nils Teren, acting for F. W. Leadbetter, head of the Port Mellon organization and affiliated mills, the pulp units are rapidly being prepared for production, and it is expected that pulp will start its flow very soon.

Officials of the company say that wet pulp may be produced in a limited volume as soon as the sawmill gets under way, the dry pulp to follow at a later date. Superintendent of the sawmill is Walter Mitchell.

Six digesters manufactured in Great Britain were brought through Panama Canal and delivered to Port Mellon last month. Installation of digesters and construction of some of the mill buildings are now absorbing most of the time of the mill crew.

Port Mellon Operating Company represents the reorganization of Vancouver Kraft, Ltd., which during the past five years has passed through several financial readjustments. The mill was practically ready to operate in 1929 when Mr. Leadbetter decided to abandon work owing to the drop in woodpulp prices. The mill did not turn a wheel, but has been kept in good condition during the long interim and much of the machinery installed six years ago will not have to be replaced.

Improvement in the pulp market induced the company to prepare for operation. It is expected that early in the new year the mill will be in full operation.

Financing was obtained from England, Canada and the United States.

FULLER MOVES TO ORANGE, TEXAS

W. E. Fuller, boss machine tender at Pacific Mills, Limited, Ocean Falls, B. C., left in September for Orange, Texas, to become superintendent of the Orange Pulp & Paper Company. Mr. Fuller was with the Crown Willamette Paper Company for many years at Camas and then later at Ocean Falls.

The Orange mill, which manufactures kraft wrapping and bag papers, has two fourdrinier machines, 64 inches and 108 inches. The sulphate pulp mill has five digesters and a rated capacity of 80 tons per day. Paper production is rated at 50 tons.

Formerly known as the Yellow Pine Paper Mill Company and the Commercial Pulp & Paper Company, the plant was taken over recently by the Equitable Paper Company of Brooklyn, New York.

CROWN WILLAMETTE BUILDING WAREHOUSE

The Crown Willamette Paper Company, Camas, Wash., has let the contract for the construction of a 105x200 foot, two story warehouse. This warehouse will be used in part for storing spare parts and equipment. A part of the space will also be utilized for the storage of stock to be employed by the Tissue Company in its converting operations.

MCLEOD VISITS SEATTLE

William A. McLeod, purchasing agent for the Powell River Company at Powell River, B. C., was a visitor in Seattle around the 15th of October.

INCREASES CAPITAL STOCK

The Columbia River Pulp Mills, Vancouver, Wash., has filed an amendment increasing its capital stock from \$1,250,000 common and \$750,000 preferred to \$2,000,000 common and \$750,000 preferred. This filing was made in Oregon.

TISSUE COMPANY ADDS EQUIPMENT

The Tissue Company, Camas, Wash., has added a napkin embossing and folding machine to its plant operated over the converting plant of the Crown Willamette Paper Co., Camas, Wash. The new machine turns out 1,000 embossed and folded napkins a minute and is one of four pieces of equipment which have been installed recently. The other machines include a smaller embossing machine, a folder which was moved in from the New York plant and a cellophane cutter to cut wrappers.

The new napkin embossing machine was invented by Mr. Peter Christman, of Green Bay, Wis., a boyhood friend of Mr. J. Gigler, resident manager of the Tissue Company.

The Tissue Company will shortly have additional storage space in the new warehouse being erected by the Crown-Willamette Paper Co. When the Tissue Company first commenced operations it occupied a small corner in the converting plant, but now in much enlarged quarters on the second floor, employs 40 people and turns out as high as 10,000 cases a month.

WEST LINN INSTALLING BARKERS

By the end of November the Crown-Willamette Paper Co., West Linn, will have in operation the new barkers being installed. There are two 12x45-foot dry wood barkers and one 12x22-foot washing drum, mounted over a vat and running entirely submerged in water.

DEAN LEWIS TO TALK IN PORTLAND AND SEATTLE

Dr. Harry F. Lewis, dean of the Institute of Paper Chemistry of Appleton, Wisconsin, is making a trip to the Pacific Coast early in December under the auspices of the American Chemical Society.

Dean Lewis will speak in Portland Monday evening, December 7th, at a place not yet selected. Dr. Leo Friedman of the Department of Chemistry, Oregon State College, Corvallis, is in charge of arrangements for the Portland meeting. Bulletins will be sent to all members giving final details. All pulp and paper men are welcome to attend.

His talk before the Seattle section of the American Chemical Society will be given December 8th at a dinner meeting to be held at the New Washington Hotel.

FIRE DESTROYS STRAW STORAGE

For the third time this year fire destroyed the straw storage pile October 28th at the mill of the Fibreboard Products, Inc., at Antioch, California.

Approximately 200 tons of straw was destroyed by the fire which apparently started by spontaneous combustion. The two previous fires did more damage than the third.

OLYMPIC READY IN FEBRUARY

The new digester to be installed in the bleached sulphite pulp mill of the Olympic Forest Products Company at Port Angeles, Wash., is expected to go into operation about February 15, 1937.

PIONEER-FLINTKOTE ENLARGING LOS ANGELES MILL

To Install Second Cylinder Machine

A development of major importance in the Pacific Coast industry came to light recently with the announcement of the Pioneer-Flintkote Co. that construction was starting on additions to their Los Angeles plant to practically double the present production on all lines.

Additions to equipment will include a new cylinder machine, the latest improved type of corrugating machine, plus a complete setup of auxiliary equipment such as beaters, jordans, screens, etc. New buildings will be constructed to house the machines and to provide the necessary additional warehouse space.

Construction will be of brick and steel and reinforced concrete, depending on the character of the individual buildings. They will be erected on present or adjoining property, approximately five acres, recently acquired by the company.

Other changes in the plant are contemplated, to fit all units into the plan of operation with the new machines. Power plant facilities will be increased as necessary, and other departments will be improved all the way through to take care of the increased production.

Construction, it is expected, will start this month, the buildings and equipment being erected as fast as possible so that

production can start soon after the first of the year.

Production will be increased in all lines, notably boxboard, chipboard, roofing, and liner boards for corrugating. The plant has manufactured felt and board for some years, but the corrugating plant will be a new departure for the company.

The new improvement program marks the latest step in an extended expansion plan. Two years ago, during 1934, the company completed a modernization of the plant involving an expenditure of \$500,000, and the erection of new buildings housing the board machine, beaters, etc., two new warehouses, a complete technical control laboratory and a new high pressure boiler plant.

At that time they went into more varied lines, consisting of box board and chip board, including bleached and Manila lined, solid news, white patent coated, mist grays and mist tans, pasted boards and test liner.

The Pioneer-Flintkote Co., formerly the Pioneer Paper Co., is one of the oldest concerns of its kind in the West, having started in Los Angeles in 1888. Willis G. Hunt is president, and L. M. Simpson is vice president and general manager, in active charge at the Los Angeles

office. A. E. Carlson, for many years with the company, is manager of the box board division, and is supervising construction of the new unit.

The company's properties cover an area of approximately 27 acres in the Vernon industrial district. They have their own water supply on the land, two deep wells having been drilled, one of these alone producing 1,000,000 gallons per day. Additional wells can be drilled if needed for larger operation.

MEEHAN PLANS CHANGED

J. P. Meehan & Company, having abandoned negotiations with the city of Vancouver for waterpower rights at Cheakamus River, is now negotiating with the British Columbia government for water rights elsewhere.

Members of the company state that their plans are still indefinite, but that they are seeking a site somewhere on Vancouver Island, possibly at Campbell River, which was extensively surveyed some years ago as the projected site for a newsprint mill planned by International Paper Company and a power plant by British Columbia Electric Railway Company.

The proposed establishment of a rayon mill at Squamish has been dropped.



The Pioneer-Flintkote roofing and board mill as it appeared from the air late in 1934 upon completion of a modernization and enlargement program. Approximately five acres have been added to the company's property since this photograph was taken.

ST. REGIS SELECTS PERSONNEL

Tacoma Mill Rapidly Nearing Completion

The men who are to have charge of operating the St. Regis Kraft Company's bleached sulphate pulp mill in Tacoma, Washington, have been selected and are now actively assisting in getting things ready to start, according to an announcement by Mr. Ossian Anderson, executive vice-president of the St. Regis Kraft Company, subsidiary of the St. Regis Paper Company.

While the date on which mill operations are to begin has not been set, the rapidity with which the new buildings are being constructed and the equipment installed, indicates that the plant will be producing pulp in a very short time.

It will be the company's policy, Mr. Anderson states, to employ as many men as possible who were working in the mill prior to the cessation of operations in 1932.

With over eight hundred men working in shifts the work of rebuilding and improving the mill is being carried on 24 hours a day and is speedily nearing completion.

Erection of the two new pulp drying machines will be finished early in November. The new log break down plant is nearly done as is the work of rebuilding the boilers and installing an additional new one.

Steel work for the screen room was finished November 1st, and pouring of the concrete floors began together with the erection of the brick walls. Flat screens were on the ground late in October ready for installation. The bleaching plant is coming along at a fast pace.

Griffith Resident Manager

W. W. Griffith will devote a part of his time as resident manager for the St. Regis Kraft Company at Tacoma, a position he has held since he came West early in 1928 prior to the starting of

construction of the mill, which was built by the Union Bag & Paper Power Corporation, a subsidiary of the Union Bag & Paper Company. Mr. Griffith carried over as resident manager when ownership of the Tacoma mill passed to the St. Regis Kraft Company.

He is also in charge of sales in the Pacific Northwest for the Bates Valve Bag Company, another subsidiary of the St. Regis Paper Company.

Mr. Griffith's career with the Union Bag & Paper Company began in 1917, at which time he became assistant manager of the bag factory at Kaukana, Wisconsin. Later he became manager and was subsequently transferred to the company's mill at Cheboygan, Mich. From there he went to Chicago to take charge of a special sales division, and then to Tacoma in 1928 to take charge of constructing and operating the new Kraft pulp mill.

Webster Is Superintendent

William T. Webster is general superintendent in charge of operations for the St. Regis Kraft Company's Tacoma mill. He has been on the job, assisting in the construction work, for the past two months.

Mr. Webster is thoroughly familiar with the plant as he was in charge of installing the Wagner Furnaces for the J. O. Ross Engineering Corporation when the mill was built in 1928. He remained in Tacoma from July, 1928, through June of 1929.

After graduating from the University of Pennsylvania in chemical engineering, Mr. Webster was for two years, 1915-1917, at the Burgess mill of the Brown Company. From 1917 to 1919 he was in the Chemical Warfare Service of the United States Army. Upon his discharge he joined the Dill & Collins organization in Philadelphia as a chem-

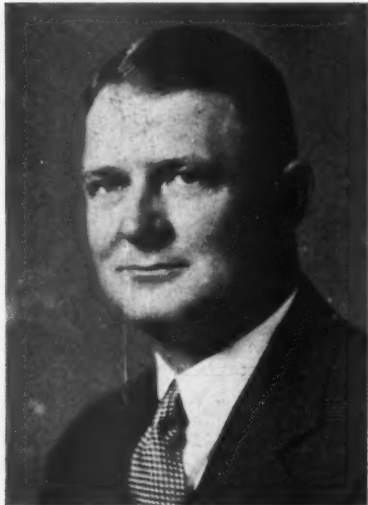
ist. Later he became assistant manager of the Dill & Collins Flat Rock mill.

In 1924 Mr. Webster moved to the Richmond mill of Dill & Collins as plant engineer and remained there until 1927, when he went with the J. O. Ross Engineering Corporation in connection with the selling and servicing of Wagner Furnaces. In August of this year he resigned from the Ross organization to assume the superintendency of the St. Regis mill in Tacoma.

Niles Anderson Assistant Superintendent

Niles Anderson is assistant superintendent of the St. Regis Kraft Company. He has had extensive experience in the pulp industry on the Pacific Coast since graduating from the College of Forestry of the University of Washington. Upon his graduation he worked on the construction of the Fidalgo Pulp Manufacturing Company's unbleached sulphite pulp mill at Anacortes, Wash., which is now the Anacortes Division of the Puget Sound Pulp & Timber Company. Later he became assistant superintendent of this plant. While the Bellingham unbleached sulphite pulp mill of the Puget Sound Pulp & Timber company (then the San Juan Pulp Manufacturing Company) was being built, Mr. Anderson was transferred there and served as sulphite superintendent, installing the machinery and starting up the mill.

In 1927 Mr. Anderson went to Ocean Falls, B. C., as sulphite superintendent for Pacific Mills, Limited. His work there included supervision over both the sulphite and sulphate pulp mills. He remained at Ocean Falls for five and one-half years and was then transferred to the Camas, Wash., mill of the Crown Willamette Paper Company as night sulphite superintendent. After a short time Mr. Anderson moved to Vancouver,



W. W. GRIFFITH
Resident Manager
St. Regis Kraft Co.



W. T. WEBSTER
General Superintendent
St. Regis Kraft Co.



NILES ANDERSON
Assistant Superintendent
St. Regis Kraft Co.



H. D. CAVIN
Resident Engineer, St. Regis Kraft Co.

Wash., and became sulphite superintendent for the Columbia River Paper Mills. He was at the Columbia River mill for more than three years and had charge of the groundwood mill as well as of the sulphite department.

The middle of September this year Mr. Anderson took up his duties as assistant superintendent of the St. Regis Kraft Company mill in Tacoma. Mr. Anderson is a member of the International Forestry Society and of Xi Sigma Pi, honorary forestry fraternity.

Cavin Resident Engineer

Harold D. Cavin is resident engineer for the St. Regis Kraft Company and has been in charge of the rebuilding and expansion of the mill since May of this year, prior to the actual starting of the remodeling work.

Mr. Cavin has returned to the scene of his first work in the pulp industry, as he was field engineer during the construction of the Tacoma mill in 1928.



JOHN M. WILCOX
Assistant Resident Engineer
St. Regis Kraft Co.

He remained as plant engineer for nine months after operations began.

When Mr. Ossian Anderson started construction of the bleached sulphite pulp mill at Everett, Wash., in 1929, Mr. Cavin became field engineer on construction and remained as plant engineer for the Puget Sound Pulp & Timber Company. When the Soundview Pulp Company acquired the plant in March, 1934, he remained as plant engineer, leaving in May of this year to join St. Regis.

From 1919 until 1923 Mr. Cavin was field engineer for the Port and Harbor Division of the Port of Tacoma, and afterward was for three years construction engineer for the City of Tacoma.

Wilcox Is Assistant Engineer

John M. Wilcox is assistant resident engineer under Mr. Cavin. He is a 1932 graduate of the Mechanical Engineering Department of the College of Engineering, University of Washington. He stud-



H. B. REILLY
Chief Chemist, St. Regis Kraft Co.

ied engineering for three years at the University of California spending his last year at the University of Washington.

Upon graduating Mr. Wilcox went to work in the engineering department of the Longview Fibre Company in Longview, Wash., where he had worked during the summer vacations of 1929, 1930 and 1931. He left the Longview Fibre Company in August of this year to become Mr. Cavin's assistant.

Murphy Is Traffic Manager

R. G. Murphy is shipping and traffic manager for the St. Regis Kraft Company in Tacoma. He has had much experience in this work with the Puget Sound Pulp & Timber Company. Upon his graduation from the University of Washington in 1929 he went to work for the Bellingham Division of the Puget Sound Pulp & Timber Company. There he handled all shipping and traffic work. In the latter part of the same year he was transferred to the company's new



R. G. MURPHY
Shipping & Traffic Manager
St. Regis Kraft Co.



J. M. LAMB
Purchasing Agent, St. Regis Kraft Co.



E. J. HAYES
Office Manager, St. Regis Kraft Co.

mill in Everett, where he performed the same work. In March, 1934, Mr. Murphy was transferred to the Anacortes Division of the Puget Sound Pulp & Timber Company, remaining there until he assumed his new duties for the St. Regis Kraft Company on October 1st.

Hayes the Office Manager

E. J. Hayes is an experienced office manager having been with the Union Bag & Paper Company for twenty years in office management work in Wisconsin, Michigan and Chicago before coming to the Pacific Coast in 1928, when the Tacoma mill was under construction. He has been in charge of the Tacoma office work ever since.

Lamb Purchasing Agent

J. M. Lamb is purchasing agent for the St. Regis Kraft Company in Tacoma. Mr. Lamb came to Tacoma when the mill was under construction in 1928, and shortly afterward was made purchasing agent. He is now handling the purchasing details of equipment and supplies for the rebuilding and expansion of the mill.

Reilly Is Chief Chemist

H. B. Reilly is the St. Regis Kraft Company chief chemist at the Tacoma mill. He returns to the Tacoma mill and the same work he had charge of prior to the shutting down of the mill in the spring of 1931. Upon leaving Tacoma Mr. Reilly became chief chemist for the Oregon Pulp & Paper Company at Salem, Oregon.

Mr. Reilly is a graduate in chemical engineering from Stanford University. From 1925 until 1928 he was employed by the Crown Willamette Paper Company in Camas as a chemist. In the latter year he became chemist for the Union Bag & Paper Power Corporation when the mill (now St. Regis Kraft) was built at Tacoma.

FIR-TEX DEMAND EXPANDING

Fir-Tex Insulating Board Co., St. Helens, Ore., is experiencing an expanding demand for its products and is running the plant three shifts four days a week, with an occasional week during which added days are run.

PROPOSED BRITISH COLUMBIA PULP MILLS

British financial interests are expected to enter the British Columbia pulp picture shortly as the chief backers of one or more mills. The projects are still in the negotiating stage and little definite is known concerning their progress, but a great deal of data has been assembled.

Dai Thomas, who has been working on the establishment of a pulp mill on Vancouver Island, is still in England conferring with financiers, and George Whalen, formerly general manager of Whalen Pulp & Paper Company, since reorganized into B. C. Pulp & Paper Company, is also in England. He is said to be associated with a syndicate planning establishment of a pulp mill on the Fraser River.

H. L. Edmunds, New Westminster lawyer, has been acting for British financial interests in connection with a deal for development of the Brunette Lumber Company's property near New Westminster into a pulp mill. The Brunette mill was acquired under option some months ago, but whether the development will be carried out immediately has not yet been decided. Mr. Edmunds is waiting until he receives definite instructions from England.

Ernest Bakewell, former Pacific Mills chemist now acting as consultant on pulp industry's technical problems, was recently asked to supply exhaustive data to British interests who said they were interested in establishing a mill in British Columbia.

Mr. Bakewell feels confident that there will be important developments in pulp milling in British Columbia in the near future. He says that British manufacturers of rayon are looking to this coast as a source of staple supplies. He is recommending that the provincial government should take the initiative in providing prospective British investors with complete information such as to facilitate their inquiries. He believes that in many cases rayon manufacturers could be induced to establish mills near lumber plants where the two industries could co-ordinate production. As a hypothetical case he says the government could locate many a timber property capable of

developing a sawmill cutting, say, 300,000 feet per day, a sash and door factory, a 200-ton sulphite mill and a ten-ton box-board plant. With data on such a proposition available, he believes the government should go into the market looking for manufacturers who would be interested in the various units mentioned.

CANADIAN-AMERICAN PROJECT PROGRESSING

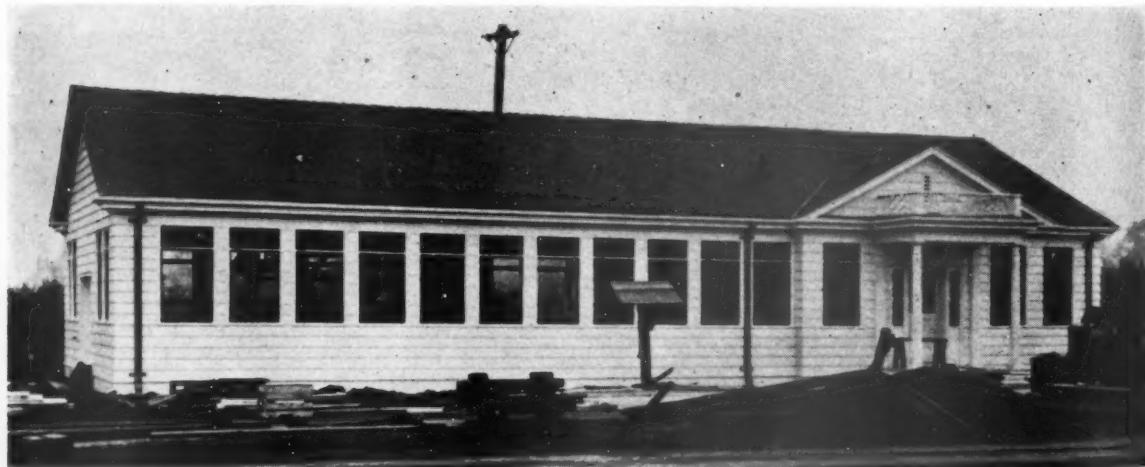
Although reticent regarding details, Frank L. Buckley, managing director of Canadian-American Pulp & Paper Company, which proposes to establish a pulp mill at Prince Rupert, informed Pacific Pulp & Paper Industry this month that everything was going along satisfactorily and that definite announcement regarding construction would be made shortly.

Indicating that the project is reaching fruition after many months of negotiation, interruption and delay, Mr. Buckley was accompanied on a recent week's trip of inspection to Prince Rupert by two pulp mill experts and two representatives of well known Vancouver construction and contracting firms.

W. J. Clarke, well known in Quebec pulp circles, was a member of Mr. Buckley's party. There was also L. A. DeGuere, of Wisconsin Rapids, Wis., who has drawn the plans for the proposed mill and has been retained in a consulting capacity from the outset. The contractor's representatives were G. W. Boyd of Northern Construction Company, and J. P. Walsh of Walsh Construction Company.

The party examined two possible sites for the mill, although Mr. Buckley says there is small likelihood of a location different from that already chosen being taken. The company still retains the floating drydock formerly operated by the Canadian government and plans to utilize it as a site for the mill. The question of water supply and power have already been pretty well settled, except for details.

The Buckley party made a flying visit to Terrace, some miles east of Prince Rupert on the Skeena River, to look over some timber limits and discuss means of transporting the pulpwood to the tide-water mill.



THE NEW WEYERHAEUSER RESEARCH LABORATORY

At the time this photograph was taken, November 4th, construction work was nearly completed on the Weyerhaeuser Timber Company's Research Laboratory at Longview, Washington.

Research Director R. S. Hatch said that before the end of November most of the equipment would be installed and research work would begin in the new quarters early in December. The Research Laboratory is located across the road from the main office building of the Pulp Division of the Weyerhaeuser Timber Company.

ANOTHER BRITISH COLUMBIA PULP MILL PROJECTED

Rumors of establishment of another pulp mill in British Columbia gained circulation in Vancouver when it became known that an option on some waterfront property on the north arm of Burrard Inlet had been taken for pulp mill purposes. The interests involved were not disclosed. Location of the property is near Buntzen, where B. C. Electric Railway has a large power plant.

MAYHEW FINDS BUSINESS IMPROVING

Upon his return October 23 from an extensive tour of Eastern Canada and the United States, R. W. Mayhew, managing director of the Sidney Roofing & Paper Company of Victoria, B. C., said he found business steadily improving and optimism in evidence everywhere. Alan Mayhew, his son, accompanied him on the trip.

The Mayhews traveled eastward by train through Canada and motored home through the United States. Mr. Mayhew said that with crops spotty in the prairie provinces times there were not as good as in the eastern provinces. He found that "social credit" did not appear to be making any real headway in Saskatchewan and Manitoba, these two provinces apparently being content to let Alberta prove its worth.

Alan Mayhew joined the company on October 26, going to work in the Sidney Roofing & Paper Company's Vancouver office.

POMONA NEWS

Charles Frampton, superintendent of the California Fruit Wrapping Mills, Pomona, Calif., returned to the plant Nov. 5, after several weeks in the hospital recovering from an operation.

John Fernstrom, younger brother of F. O. Fernstrom, president of the company, is still visiting at the plant, but plans to return to Sweden about Dec. 3.

Pulp shipments to the company have been stopped by the maritime strike, but it is understood they have enough on hand to carry on for several months.

Installation of machinery for the Pomona Paper Products Co., Inc., was started this month when several men arrived from the East to take charge of the work. Some of the machinery is on hand at the plant, but part is held up at Los Angeles harbor by the strike.

Mr. Marcalus is expected at Pomona shortly to superintend the work, coming from Elizabeth, N. J., where he operated the Marcalus Manufacturing Co.

The new unit will occupy space in the new warehouse at Pomona, and will produce waxed paper and related products.

FIBREBOARD L. A. NEWS

The Vernon plant of Fibreboard Products, Inc., was host to a number of visitors and business groups recently. Executives, sales staff and office force of the Los Angeles Soap Co. made a tour through the entire plant, guided by sales manager Cort Majors, George Ford, manager of the converting plant, George Martin, sales contact man, and Robert Walters, head of the planning department.

On one day, the Van Camp Sea Food Co. of Terminal Island took possession of the model grocery store and took a series of sound movies for a commercial reel to be used in shorts for eastern display. It will be part of a picture showing

fishing operations, canning, distribution and sale of tuna.

Y. Ohashi, chief engineer of the Kyodo Printing Co., Ltd., of Tokyo, Japan, who is on a tour of the printing and paper making plants in this country, was another visitor going through the mill.

Visitors at Vernon from San Francisco last month included Howard Stillwell of the Fibreboard Export Case Association and H. L. Weber, Fibreboard purchasing agent.

TO COMBINE FIR-TEX AND PLYWOOD

The Insulated Plywood Company has been formed by Edward W. Borcharding and associates and has installed equipment in a building at 421 South Michigan Avenue, Aberdeen, Washington, adjacent to the plant of the Aberdeen Plywood Company. The new firm will produce a wall board of combined Fir-Tex insulating board and Douglas fir plywood. It is to be used for home and office interior walls and ceilings.

For several years tests have been carried on to produce a combination wall board panel of this type. The Fir-Tex wood fiber insulating board is one-half inch, three-quarter inch or inch thickness, it is glued to two-ply Douglas fir plywood. The greater part of the new plant's output will have plywood on but one side, but some board will be turned out with plywood on both sides of the Fir-Tex.

The new board combines rigidity and resistance to abrasion with the well-known insulating and sound deadening qualities of Fir-Tex. The insulating value of the Fir-Tex is increased by the glued-on wood surface.

Mr. Borcharding is now in the East, but will shortly return to Aberdeen, at which time the new plant will begin quantity production.

NEW ENVELOPE PLANT

The Palmer-Luce Envelope Co. recently completed construction of a new \$30,000 plant at 606 East 12th St., Los Angeles.

The company represents the joining of forces of two prominent individuals in the envelope manufacturing line on the Coast, Harry Palmer, who since 1923 has headed the Palmer Envelope Co., and Ray Luce, who has been with another leading firm of the city for a number of years.

U. S. ENVELOPE TO BUILD LOS ANGELES PLANT

George R. Davis, San Francisco, manager of the Pacific Coast Envelope Co., Division of the United States Envelope Co., recently negotiated for the purchase of approximately an acre of land on East 12th St., near Soto, in Los Angeles, for the early construction of an envelope manufacturing plant. The plant will represent an investment of approximately \$250,000 and will be of about the same size as the firm's big San Francisco unit. This will be U. S. Envelope's second plant on the Pacific Coast and the sixteenth in the United States.

Actual date of construction has not yet been announced.

SCANLON FORMS COMPANY

Robert H. Scanlon, formerly representative of the Powell River Co. at San Francisco, has organized Robert H. Scanlon, Incorporated, to specialize in newsprint papers, with offices at 405 Montgomery St., San Francisco.

GOVERNOR MARTIN PREDICTS NEW GRAYS HARBOR PULP MILL

In a radio speech on the evening of October 13th Governor Clarence Martin of Washington made the following statement about a prospective new pulp mill in Grays Harbor.

"Eastern capital and new industries are looking toward Washington. For instance, just a few days ago representatives of a mid-western concern visited at Olympia, discussed taxes and the policy of a sustained yield of timber, found the assurances satisfactory, and declared their intention to build a \$5,000,000 pulp and paper plant on Grays Harbor."

TOMLINSON UNIT INSTALLED

The work of installing a 150-ton Tomlinson unit in the kraft mill of the Crown Willamette Paper Co., Camas, Wash., was completed the second week in November and the unit is now in production. An interesting feature of this installation is the screw conveyor system for handling salt cake. Actually it consists of two conveyor systems, one above the other, running in opposite directions. The top conveyor receives the salt cake from a hopper and by means of a screw operated by variable speed motor, which delivers a measured amount of salt cake into the lower conveyor, this conveyor in turn dumping into the black liquor.

GRAYS HARBOR WATER CONTRACTS SIGNED

Contracts for the sale of water from the Wynooche industrial system were signed on October 22nd between the cities of Aberdeen and Hoquiam for resale to the Grays Harbor Pulp & Paper Company of Hoquiam, Washington. The contracts were placed in escrow under separate agreements.

Following the signing of the contracts work began the morning of October 23rd by Contractor Sam Macri of Seattle, who obtained contracts for the work in both Aberdeen and Hoquiam of trenching for the pipeline. Final approval of the bond sales was the only point remaining before the entire deal would be completed.

The pipeline will be 54 inches in diameter and will run from Lake Aberdeen east of Aberdeen through the city and across the boundary into Hoquiam to the Grays Harbor Pulp & Paper Company's mill.

Under the water sale agreement the Grays Harbor Pulp & Paper Company will pay the City of Hoquiam \$65,072.68 per year for 30 million gallons of water per day. Of this amount, payable monthly, the City of Aberdeen will receive \$58,320 yearly from Hoquiam.

SPAULDING RUNNING STEADILY

Spaulding Pulp & Paper Company, Newberg, Oregon, is running the plant to full capacity and has stepped up the output to around 75 tons of pulp a day. The company has received equipment to further expand the drying capacity of the plant and expects to have this equipment installed some time this month.

POWELL RIVER OPERATING STAFF

D. A. Evans is resident manager of the Powell River Company at Powell River, B. C. Harry Carruthers is general superintendent in charge of the mill. Harry Andrews is control superintendent and the laboratory is under his supervision. N. Beaton is chief engineer and J. E. Kyles is mill secretary.

WILLAMETTE RIVER POLLUTION

City of Portland Chief Offender

A Discussion of Portland's Sewage Disposal Plan

By J. P. NEWELL*

The proposed plan cannot be fairly judged without considering certain conditions peculiar to Portland's location and climate. The Columbia River is usually at its lowest level in February. In May it begins to rise rapidly and reaches its peak early in June. The fall during July is rapid at first but tapers off gradually until September when it gets down to a volume from one-third to one-half greater than the minimum. Extreme low water is reached in November or early December.

The Willamette is in flood during February and March, then falls as the Columbia rises, reaching its low stage in June or July and continuing with but little change until December.

Summer Flow

During the time of the summer rise of the Columbia it may reach a volume of 150 times that of the Willamette and it is very seldom less than 20 times as great. As soon as that rise begins, the flow in the Willamette, even though it may be in considerable volume, is checked by the backing in of water from the Columbia. By the time the flow in the Willamette has reached its minimum, the river, from Sauvie Island to Sellwood, has reached almost the condition of a narrow lake. The tide has a maximum rise and fall at low water of nearly three feet, causing a slight current up stream for about three hours of each half day with nine hours of outflow, but movement in either direction is too sluggish to have any scouring effect.

About ten years ago, when construction of the seawall was under consideration, a number of floats were released in the harbor and observations taken of their course. Without exception, each one traveled back and forth for three or four days over a range of a few hundred yards and finally went ashore at some point in the harbor.

Sludge Deposits

At about the same time a series of tests were made of the extent of pollution of the water. It was believed then that the sludge deposits of each summer season were swept away by the winter rains. Tests made this year show that the pollution is substantially greater than ten years ago. Mr. Devine, the diver who does the city's underwater work, says that beds of sludge are formed around the mouth of each sewer, reaching a depth, in places of 4 or 5 feet, and extending far out into the deep water. In fact there is no part of the central or lower harbor which does not have some deposit toward the end of the summer season. This sludge is so dense that the diver finds it necessary to stretch a line across any place where he has to work and pull himself back and forth through it. Moderate high water during the winter carries away some of this deposit, but even an extreme high water leaves a considerable part, and there is accumulation from year to year.

*Consulting Engineer. Newell, Carter & Walsh, Civil Engineers, Portland, Oregon. Presented before the Portland Chamber of Commerce.

Testimony of witnesses before the mayor's committee shows that the fall run of salmon has been practically exterminated, the river becoming entirely devoid of oxygen for a distance of 2 or 3 miles so that the fish cannot pass through it. Medical testimony shows that typhoid has been prevented by diligence in keeping people away from the water, bathing in the stream being especially forbidden. Recreational uses of the river have been abandoned.

Treatment of Sewage

Our climatic conditions are peculiarly favorable to sewage treatment. Very little rain falls during the period in which river conditions prevent the sewage being carried away. It is therefore not necessary here as it is in most cities to construct a separate system of sewers. The same sewers which carry storm waters in the winter carry practically nothing but sewage during the summer and fall.

The proposed plan of construction contemplates beginning work at the selected point of discharge of the effluent into the Columbia River, after treatment, building thence southward across the Peninsula to the Willamette and from there constructing an intercepting sewer on each bank far enough to connect with the trunk sewers on either side. Crossings of the river will be put in where economy makes it advisable. These interceptors will be built on such grades as will permit flow by gravity. Whenever the flow line gets too far below the ground level for economical construction, a pumping plant will be installed to lift the sewage to a higher level.

At first the sewage will be discharged into the Columbia but before this can become objectionable, and at such time as seems most suitable, settling basins and a treating plant will be constructed for what is called "primary treatment." This primary treatment is all that will be needed in Portland for an indefinite time and is much less expensive than the so-called "complete treatment" which is required where there is not a large stream available to dilute the effluent. The treating plant will be located north of and near Columbia Slough. Sludge from the settling basins will be dried and burned or hauled away for fertilizer, if there is any sale for it. The effluent will be heavily chlorinated before it is discharged into the river.

Benefits

The first district benefited will be that along Columbia Slough, where conditions are extremely bad. The remainder of the city will receive no benefit until the main intercepting sewer begins to connect with the trunk sewers which empty into the Willamette. From that time on, the entire city will be benefited alike by each successive step of reduction in the amount of sewage discharged into the harbor.

Benefits will be the gradual removal of an ever-present threat of typhoid, since no amount of vigilance will completely prevent children swimming in the river; there are always a considerable number of people who work on or near the water

and much food is manufactured or stored along the water front or crosses the waterline in transportation. The recreational uses of the river will be restored and will be of lasting benefit both to citizens and as an attraction to tourists. A potential danger to the spring run of salmon will be removed and the fall run can no doubt be restored by planting.

Flexible Plan

The outstanding argument, however, in favor of beginning immediately to deal with this situation is that of common decency. For five months of the year we have a great open sewer in the heart of the city, whose condition is horrifying to all who become aware of it by contact or close observation. Only the fact that not one person in a hundred ever comes near enough to the water to see what is in it, has caused it to be tolerated so long.

The work will be financed on a pay-as-you-go basis. The construction each year will be in accordance with the money available. The charge against the user for sewage disposal will be, in general, one-third of his water bill.

This plan is flexible. If financial conditions get worse, work can be stopped for a time without loss of value in work already done. If improved conditions make it desirable to hasten the work, a bond issue can be resorted to for all that remains to be done or any part of it. The plan of apportionment of the cost seems as equitable as can be devised. It is objected that it required no contribution from vacant property, but this is offset in part at least, by the fact that there is very little vacant property which has not been assessed for sewer construction from which it has yet derived no benefit.

Joint Action

It is strongly urged that Portland should not act until there can be devised some plan by which the entire Valley may be required to join in a united program of sewage disposal. Such a plan might involve this city in a large unnecessary expense. The townships up the valley need a high degree of purification because of the low stage reached by the river during the summer and fall months. Portland, as we have already pointed out, requires much less treatment because its effluent can be discharged into a very large stream. Nevertheless it is likely to be very difficult to persuade the up-river cities that they can justly be required to adopt higher standards of purification than we do. If we should be required to build according to the standards proper for them it would add from two to three million dollars unnecessarily to our cost of construction, and a substantial amount each year to the cost of operation.

Portland is the chief offender in pollution and will be the chief beneficiary from purification. We can best promote joint action by going ahead with this program now. As soon as we have committed ourselves to it and made substantial progress in it, we may ask and expect the cities of the Valley to do their part. The co-operation of the State Board of Health is assured.

PUGET SOUND ACQUIRES MORRISON MILL AT BELLINGHAM

The Puget Sound Pulp & Timber Company recently acquired four of the waterfront blocks, including the sawmill, formerly owned and operated by the Morrison Mill Co. This gives the Puget Sound Company's Bellingham Division excellent waterfront facilities and a sawmill plant which they will convert to the cutting of logs for pulpwood. The company is now reconditioning the sawmill, installing modern barking machines. The sawmill plant has its own power generating equipment and a capacity of 125,000 feet per shift, which is ample for cutting the total pulpwood requirement of the pulp mill on a one-shift basis.

The sawmill and log storage occupies two of the blocks. The other two blocks are directly interspersed with the present pulp mill site of the Puget Sound Company and give the company a valuable addition of property for future use. The management offers no plans for the use of this property except to state that they may soon start the operation of the cut-up mill as soon as the reconditioning and changes have been completed. One distinct advantage from the acquisition of this property is that it gives to the pulp company access to deep water facilities over its own land.

SEDOFF TO DO RESEARCH AT IDAHO

Arthur Sedoff, who graduated in chemistry last June from the Massachusetts Institute of Technology, has been selected as the TAPPI fellow to work on the measurement of gelatinization of cellulose and wood at the University of Idaho under the direction of Professor Edwin C. Jahn of the School of Forestry. Mr. Sedoff has had research experience in carbohydrate chemistry.

In September the TAPPI Committee on Educational Cooperation approved a grant of \$600 for research on gelatinization of wood and cellulose to be carried out in the Wood Conversion Laboratory of the University of Idaho.

According to Professor Edwin C. Jahn, who is in charge of this research work, the TAPPI grant will support a continuation of the preliminary work started at Idaho on gelatinization and which was reported on at the joint TAPPI-Superintendents' meeting in Longview, June 5th and 6th of this year, and published in the June number of this journal.

Professor Jahn states that, "The method involved in the preliminary work follows Strachan's principle of pressing out capillary water and measuring imbibed water. Bell's criticism of the long time necessary was overcome by the use of

high pressures. This method, as well as others, is to be thoroughly studied with respect to all conditions and factors involved. A study will be made of the application of this method to the interpretation of data on beating and hydration.

"At the present time an accurate and fairly rapid method for obtaining a direct measure of hydrated or imbibed water, is lacking. An investigation to develop such a method has a practical value, though it is fundamental in nature."

TWO WESTERN STUDENTS AT INSTITUTE

Of the forty-one first year students enrolled this Fall at the Institute of Paper Chemistry, Appleton, Wisconsin, but two are from the West, Leslie L. Larson of Blackfoot, Idaho, and Donald J. McLaurin of Victoria, B. C.

PRODUCTION RATIOS UP

The American Paper & Pulp Association's production ratio report showed 84.0 per cent for September as compared with 75.0 per cent in September, 1935, and 59.4 per cent for September, 1934.

This was the highest ratio so far this year, the previous high being April with 82.3 per cent.



PUGET SOUND PULP & TIMBER PURCHASES ADDITIONAL GROUND ON BELLINGHAM WATERFRONT

In the above aerial photograph the area marked No. 1 is the original pulp mill property, occupied by the Bellingham unbleached sulphite pulp mill of the Puget Sound Pulp & Timber Company.

Area No. 2, consisting of four waterfront blocks, was recently purchased by the Puget Sound Pulp & Timber Company from the Morrison Mill Company and includes the Morrison sawmill and docks.

SUPERINTENDENTS LAY PLANS FOR MEETING

In Portland, December 4th and 5th

The Pacific Coast Division of the American Pulp & Paper Mill Superintendents Association will hold its regular Winter meeting Friday and Saturday, December 4th and 5th at the Hotel Multnomah, Portland, Oregon.

Inviting everyone associated with the industry to attend, general chairman John E. Hassler says that emphasis will be placed upon the discussion of practical operating problems at the Round Table Saturday afternoon, December 5th. This discussion has been in the past one of the most interesting and successful features of the Superintendents meetings.

Of special interest will be the presence of Fred C. Boyce of Wausau, Wisconsin, a former president and one of the founders of the American Pulp & Paper Mill Superintendents Association. Mr. Boyce is coming to the Pacific Coast to attend the meeting and to visit friends.

Three papers will be presented at the Saturday morning business session.

Brian L. Shera of the Pennsylvania Salt Mfg. Company will present a paper on "Advancement in Kraft Pulp Bleaching."

Kenneth Shibley of the Shibley Company, water treatment specialists, will offer a paper on "The Effect of Clear Water on the Manufacture of Pulp and Paper."

T. C. Roberts of the Beloit Iron Works is travelling to Portland from Beloit, Wisconsin, to present a paper on the "Dual Horizontal Press," a recent development in press sections by the Beloit Iron Works. Mr. Roberts will bring with him a model of the new press which will be on exhibition at the Multnomah Hotel during the meeting.

The Friday Program

Registration will begin Friday noon, December, 4th. Those who wish to participate in the golf tournament at the Columbia-Edgewater Country Club and win some of the excellent prizes should get in touch with W. A. Kelly or Dan Danielson who constitute the committee in charge of the tournament. Mr. Kelly can be reached at 3007 N. E. 11th, Portland, and Mr. Danielson at the Simonds Saw & Steel office at 311 S. W. First, Portland.

Friday evening at 9 o'clock there will be an informal party.

The Saturday Program

Following the presentation of papers Saturday morning officers will be elected for the coming year.

At noon a luncheon for the men will be held at the hotel with Carl E. Braun as chairman.

Following the luncheon the Beloit Iron Works will present a sound moving picture of the Panama City kraft pulp, paper and board mill of the Southern Kraft Corporation. This film shows the cutting of Southern pine, transportation to the mill, and every step in the process of turning it into the finished products. The film shows the manufacture of car-

tons from the board and the filling of the cartons with packaged foodstuffs.

The ladies will be entertained at a luncheon at the Columbia-Edgewater Country Club.

The Round Table Discussion led by George Brown of Spokane will begin at 2 p. m. and probably remain in session arguing practical points of pulp and paper making until early evening. George Cropper, first vice-chairman of the Pacific Coast Division will assist Mr. Brown in leading the discussion.

At 6:30 a reception will be held in honor of Mr. Fred C. Boyce of Wausau, Wisconsin.

Z. A. Wise of Portland will serve as toastmaster for the Saturday evening banquet which is in Mr. Boyce's honor. Dancing will follow the dinner program. Mr. Boyce will be the only speaker.

Ladies' to Be Entertained

Following the luncheon Saturday at

the Columbia-Edgewater Country Club for the ladies, a card party will be held and prizes awarded. Mrs. John E. Hassler is in charge of the ladies' program for the Superintendents meeting.

Reservations

Reservations for the December 4th and 5th meeting of the Superintendents should be made immediately with John E. Hassler, general chairman, 1433 N. W. Quimby Street, Portland, or with Don L. Shirley, who is in charge of reservations and hotel arrangements. Mr. Shirley's address is 1637 N. W. 14th Avenue, Portland, Oregon.

The officers of the Superintendents Association who urge everyone to attend, whether a member or not, include: George W. Brown, chairman; George Cropper, first vice-chairman; R. C. Onkels, second vice-chairman; James P. V. Fagan, third vice-chairman; and, H. A. Des Marais, secretary-treasurer.

NEW BELOIT PRESS TO BE SHOWN AT SUPERINTENDENTS MEETING

On Saturday morning, December 5th, those attending the meeting of the Pacific Coast Division of the American Pulp and Paper Mill Superintendents Association, will have an opportunity to hear T. C. Roberts of the Beloit Iron Works describe the Beloit Horizontal Dual Press, a recent development which is proving of interest to the industry.

During the entire meeting a model of this latest development in paper machine presses will be on exhibition at the Multnomah Hotel.

One of the new presses is now operating on bond and envelope papers and has brought a repeat order. The Beloit Iron Works also has orders for several other dual presses for use on various grades of paper including one for straw papers.

The latest order for a Beloit Horizontal Dual Press comes from the Flambeau Paper Company of Park Falls, Wisconsin. The press installation is part of a modernization of the number two paper machine, 132 inches in width. The description of the new press section to be installed on this machine is as follows:

The entire press section will be replaced with the Beloit Horizontal Dual press, which has only recently been introduced to the paper trade. A model of this press is shown in the photograph. This press section consists of two presses; the first press is of the suction type and both press rolls are served by a common center roll. There are no top press rolls. This press is equipped with tension indicator so that the operators can maintain the

proper nip pressure at each press for the best results on each grade of paper. The crowns in the press rolls are ideal for uniform water removal as it is only necessary to crown the press rolls to take care of the nip pressure and not crown the rolls to offset the deflection caused by the weight of the top rolls in the conventional manner.

This new type press section is more efficient and the sheet leaves the press section more uniformly dry than is possible with the other type of presses. The sheet is not carried by the felt after passing through the nip; thus the sheet does not re-absorb moisture from the felt. The suction press creates a dry nip at the first press and the water squeezed out by the second press falls away from the nip by gravity, whereas with a plain press mounted in the conventional vertical manner the water is trapped back of the nip, which limits the amount of water removal of this press and also disturbs the formation of the sheet. All the press and felt rolls are mounted in the latest type anti-friction roller bearings.

The lower moisture content of the sheet and uniformity of moisture improves the drying of the paper without cockles and at a lower steam pressure; thus the quality of the paper is greatly improved.

To improve further the quality of the paper this machine is being equipped with smoothing rolls at the entrance of the dryer section, which will impart a better finish to the paper.

There will be six additional paper dry-

ers installed to reduce further the drying temperature and also increase the production of the machine. Four special Feeney felt dryers are to be installed so that the dryer felt is dried as it absorbs the moisture from the sheet, thus preventing the paper being dried from coming in contact with a wet felt. These felt dryers are of considerable importance in maintaining ideal drying conditions for the paper.

CROSSETT MILL TO START IN JANUARY

Mr. Aubrey Watzek, of Portland, Ore., recently returned from an extensive trip through the South and East. While upon the trip he visited Crossett, Ark., where the Crossett-Watzek-Gates company is erecting a kraft mill. This mill is a subsidiary of the Crossett Lumber Co., and is called the Crossett Paper Mills. It is expected that this mill will be in operation shortly after January 1. Mr. Watzek was impressed by the rapid development in the South in the manufacture of kraft.

LOGGING CONGRESS OPPOSES OLYMPIC MONUMENT

The Pacific Logging Congress at its annual meeting held in Eureka, California, October 6 to 10th, reaffirmed its opposition to the enlargement of the Olympic National Monument and the withdrawal of timber, mainly pulp woods in this area, from use. The resolution passed follows:

"We affirm our stand of the previous year in regard to the disposition of the forested lands in the Olympic National Forest that they be retained under the administration of the United States Forest Service and that they be managed on a sustained yield basis for the production of commercial timber and thereby help maintain existing local industries and communities.

"We reaffirm our belief that the interests of genuine conservation of our organic resources are best served if they are retained in and administered by the United States Department of Agriculture."

BRITISH COLUMBIA PLEASED WITH ELECTION RESULTS

Pulp and paper manufacturers in British Columbia were well pleased with the result of the presidential election in the United States, seeing in it a clear indication that the present tariff relations will not be disturbed.

There is no special tariff on woodpulp or newsprint, but Canada has benefited a good deal from the workings of the reciprocal trade agreement in other products, and because this agreement was negotiated by Roosevelt and is not likely to be amended by the Democratic administration business relations with the United States will continue on a satisfactory basis, and the pulp and paper industries will indirectly benefit.

"The attitude of Landon was opposed to the Canadian treaty and he virtually pledged himself to its repeal," said one Vancouver pulp executive. "If this had occurred there is no telling what changes might have been made to the tariff schedules affecting us directly. High tariffs seldom work in our favor. They might curtail our exports and at the same time induce Canada to raise the duties on equipment from the United States, adding to our operation costs."

HERCULES ABSORBS PMC SUBSIDIARY

Following the regular board of directors meeting on October 28, Mr. R. H. Dunham, president of Hercules Powder Company, announced that, effective November 2, 1936, Hercules will acquire the assets of its subsidiary, Paper Makers Chemical Corporation. Paper Makers Chemical Corporation has been operated as a separate company since October, 1931, when it became associated with Hercules.

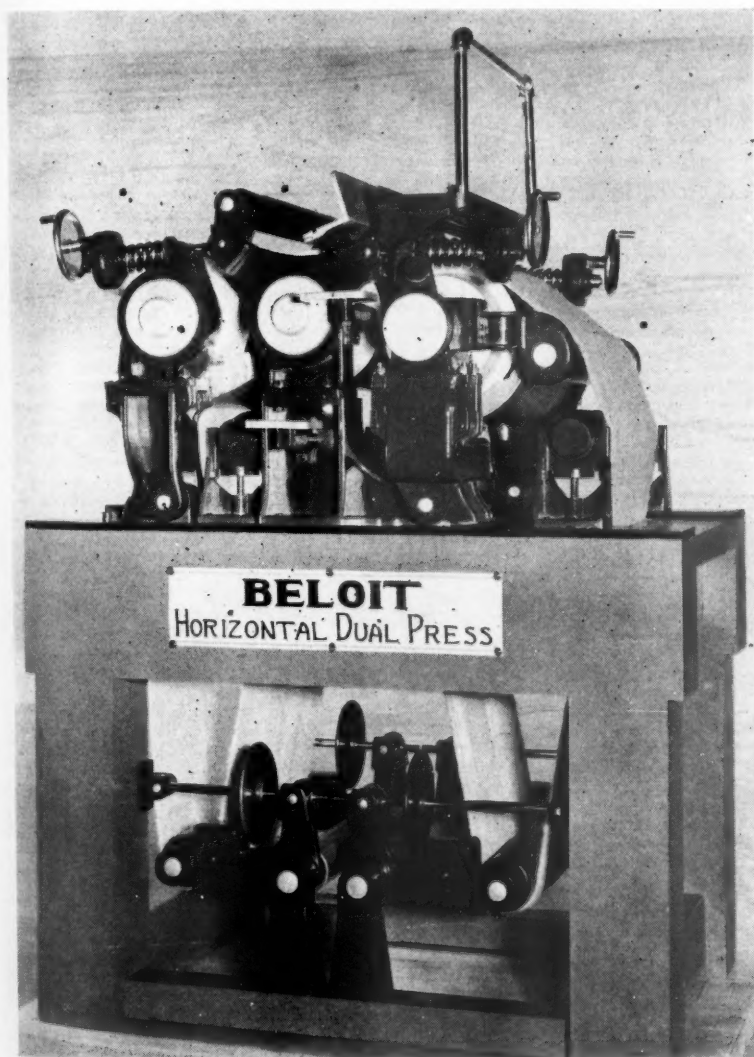
The business, formerly conducted by Paper Makers Chemical Corporation, will be continued by the Paper Makers Chemical Department of Hercules Powder Company. Mr. W. J. Lawrence, formerly president of PMC, has been elected a vice president of Hercules Powder Company and general manager of its Paper Makers Chemical Department.

SOUNDVIEW RAISES DIVIDEND

The Soundview Pulp Company of Everett, Washington, has increased its annual dividend rate from \$3 to \$4 a share with the declaration of a regular quarterly dividend of \$1, payable November 25th to stock of record November 9th. Previously the stock was on a \$3 annual basis, paying 75 cents quarterly. The company directors have also declared an extra dividend of 50 cents, payable November 25th to stock of record November 9th, with the provision that stockholders have the alternative of taking the extra in cash or 1/200th of a share of new \$100 par value \$6 preferred stock.

WASTE SULPHITE LIQUOR FOR TRUCK ROADS

Peterman Manufacturing Co. in its logging operation at Morton, Wash., this season has been testing waste sulphite liquor for application on truck logging roads. The company purchased 10,000 gallons and applied around 4,000 gallons per mile. It laid the dust and improved hauling conditions. Waste liquor on logging roads has been used for several years, to a limited extent, in the Spokane, Washington, district.



A model of the new Beloit Horizontal Dual Press, which will be exhibited at the meeting of the Pacific Coast Division of the American Pulp & Paper Mill Superintendents Association in Portland, Oregon, December 4th and 5th.

TAPPI HOLDS MEETING AT PORTLAND

Votes to Hold One Two-Day Convention a Year—
Dinner Meetings To Be Continued

At Portland, Oregon, on November 6th and 7th, the Pacific Section of TAPPI (Technical Association of the Pulp & Paper Industry), held another instructive and enjoyable meeting.

Of special interest to all men in the industry on the West Coast was the decision of the Pacific Coast Section to limit its meetings in the future to one two-day meeting a year together with the schedule of dinner meetings which have proved so successful this past year. It was believed that the combination of one regular meeting with a number of dinner meetings held in various mill towns in the Northwest, will provide a stronger educational program which will benefit a greater number of men.

While registration began shortly after noon Friday, November 6th, the scheduled program began at 9 p. m. with an informal reception in the Grand Ball Room of the Multnomah Hotel. "The Wonder World of Chemistry," a very interesting and instructive sound motion picture, was presented through the courtesy of the E. I. Du Pont de Nemours Company. Mr. Martin Breuer, Pacific Coast manager of the Organic Chemicals Department of Du Pont, arranged for the film presentation and was present at the TAPPI meeting.

The picture, as its title indicates, dealt with the wonders of modern chemistry, but throughout emphasis was placed on the contributions made by chemistry toward improved living conditions for millions of people. A considerable portion of the film showed the various useful products manufactured from cellulose, which was of particular interest to the TAPPI audience.

Dancing followed the presentation of the Du Pont picture. Quality entertainment was interspersed with the dancing under master of ceremonies Ray Smythe, who arranged the program and handled it with his usual skill. He soon removed the last trace of formality, saw that all became acquainted and had an enjoyable evening.

Saturday Morning

The business meeting was opened at 9 o'clock Saturday morning by TAPPI chairman W. R. Barber, technical supervisor of the Crown Willamette Paper Company at Camas, Washington. The following papers which had been arranged for by Carl Fahlstrom, TAPPI vice-chairman in charge of programs and technical plant superintendent of the Longview Fibre Company, were presented:

"Laboratory Studies of Sulphite Waste Liquor," was the subject offered by Dr. H. K. Benson, professor of chemical engineering of the University of Washington. Dr. Benson summed up laboratory work performed in recent years which contributed toward a broader

knowledge of the properties of waste liquor. His paper is published in full in this number of PACIFIC PULP & PAPER INDUSTRY.

The second paper was presented by Elis A. Ennevaara, research chemist for the British Columbia Pulp & Paper Company at Port Alice, B. C. Its title was "A Rapid Method of Determining Cuprammonium Viscosity of Pulp." Mr. Ennevaara's paper is printed elsewhere in this journal.

A Discussion of Color

H. A. Des Marais, Pacific Northwest representative of General Dyestuff Corporation of New York, whose headquarters are in Portland, discussed "Dyestuff Problems in Paper Making."

In his discussion Mr. Des Marais approached the application of dyestuffs and the use of color in terms of the chemist, represented by the color man in the paper mills, the physicist in terms of the laboratory man operating a color analyzer and spectroscope, and the psychologist who obtains his interpretation of color in terms of sensations from the point of view of the salesman.

From the theoretical view point Mr. Des Marais proceeded with the use of samples of pulps, showing the color of Unbleached Hemlock Kraft, Bleached Kraft, Unbleached Sulphite and Groundwood to the requisites in dyestuff and water to produce maximum brilliancy for white papers.

The subject of white papers was followed with a discussion of dyestuffs and their reaction under different stock and mill conditions. The following points were discussed as influencing the color of a sheet of paper or board:

1. Influences of different furnishes, finishes and weights of paper on the shade of a color.
2. Influence of beating and jordaning.
3. Influence of different mill water conditions.
4. Influence of the pH and mill procedures regarding addition of size, color and alum.
4. Factors which caused two-sidedness.

The discussion of beater coloring was followed by a summary of important factors covering the application of surface colors.

Much discussion followed the presentation of each paper, the authors being questioned on their various statements.

The Business Meeting

Upon the conclusion of the discussion following the papers, chairman Barber announced that the meeting would go into a business session. He called upon R. S. Wertheimer, chairman of the Nominating and Resolutions Committee, which consisted of Kenneth Shibley and A. G. Natwick besides Mr. Wertheimer.

Mr. Wertheimer offered the following resolution for his committee concerning the policy of the Pacific Section of TAPPI on future meetings:

"Whereas the executive committee of the association passed a resolution in June, 1936, as follows: 'In cognizance of the fact that there has been considerable talk of the pulp and paper association having too many conventions it was moved and seconded that the executive committee of TAPPI recommend to the membership that they limit themselves to one convention a year and that they depend upon the dinner meetings taking the place of the second convention. This motion was carried and will be put up to the membership for a vote during the regular business meeting next fall.'

"Then whereas it is the opinion of the nominating and resolution committee which has been duly appointed by the chairman of TAPPI that such a resolution be presented to the membership, be it hereby resolved that one formal convention a year be arranged for by the membership of TAPPI and that dinner meetings at suitable intervals throughout the year be continued."

Adoption of the resolution was moved, seconded and passed unanimously.

Chairman Barber called upon Earl G. Thompson, secretary-treasurer of the Pacific Section of TAPPI for his report summarizing the organization's activities during the past year. Mr. Thompson's report follows:

"As secretary, I wish to state that all the correspondence has been taken care of. We have, in the last year, increased the national members and associates from the Pacific Section from 99 to 103. The junior memberships have increased from 12 to 16. We have new affiliate members making a total of 33 paid-up affiliate members.

"During the season of 1934-35, two very successful evening dinner meetings were held; the first in Portland and the second in Camas. These were so successful and developed such an interest that the executive committee decided last fall to expand this part of the association's program to include five such meetings for the 1935-36 season, besides the regular two-day meetings.

SCHEDULED TAPPI MEETINGS

Pacific Section Dinner Meetings

January 19th Portland, Oregon
February 4th Vancouver, B. C.
March 2nd Olympia, Washington
April 6th Port Angeles, Washington

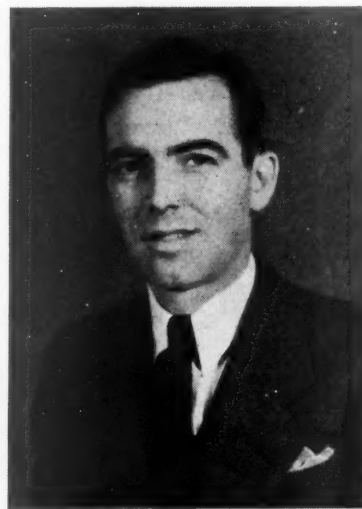
NEW TAPPI OFFICERS



CARL FAHLSTROM
Chairman Pacific Section of TAPPI



GEORGE H. MCGREGOR
Vice-Chairman Pacific Section of
TAPPI



EARL G. THOMPSON
Secretary-Treasurer Pacific Section
of TAPPI

"The thought back of these meetings is that many of those interested in the industry, particularly the younger men, cannot attend the larger meetings due to the expense in both time and money. By holding the dinner meetings in the various localities, it is possible for any one in either Washington or Oregon to attend at least two of them without losing time from the mill and at a very nominal cost. Arrangements are being made this year to take these meetings further North to give our members in British Columbia a better opportunity to attend.

"The first meeting last season was held in Portland January 29th. Ninety men

attended to hear Dr. Robert Brown of the Rainier Pulp & Paper Company and Robert L. Stevens of The Instrument Company present papers. At the second meeting at Everett sixty-three were in attendance February 3rd, while Paul Bovard of the California Filter Company discussed Slime Control. The third meeting was held at Port Angeles with eighty present. Ray Smythe and Roger Chase read papers on Screen Design and Corrosion Resisting Metals. On March 24th Dr. J. Elton Lodewick of the Pacific Northwest Forest Experiment Station and Clark Lewis of the Weyerhaeuser Timber Company spoke to an audience of sixty at Portland. The largest meeting was held at Olympia where one hundred and seven turned out for a bleaching symposium in addition to a talk by E. J. Hanzlik of the U. S. Forest Service. Papers were presented by A. H. Hooker, Jr., and Tom Moffitt of the Hooker Electro-Chemical Company, Brian Shera of the Pennsylvania Salt Manufacturing Company and Dr. W. Hirschkind and David Pye of the Great Western Electro-Chemical Company.

"On May 12th we cooperated with the Puget Sound Section of the American Chemical Society in a meeting with Dr. Harold Hibbert of McGill University. The season closed with a joint meeting with the Superintendent's Association on June 5th and 6th. This meeting was held at Longview and was highly successful with a good attendance and an interesting program. Papers were presented by Prof. W. L. Buschlein and Dr. Kenneth A. Kobe of the Department of Chemical Engineering of the University of Washington, Mr. Henry Ward Beecher of the Chas. C. Moore Company and Mr. Robert T. Petrie of the Bagley & Sewall Company, Mr. Wm. R. Willetts of the Titanium Pigment

Company, Mr. James T. Kemp of the American Brass Company, Dr. Edwin C. Jahn and Mr. Joseph L. McCarthy from the University of Idaho, George Douglas of the Washington Pulp & Paper Corporation and Clare V. Smith of the St. Helens Pulp & Paper Company. This program was followed by a lively discussion lead by Mr. Geo W. Brown and our chairman, Mr. W. R. Barber.

"We have had one dinner technical meeting this fall. On October 6th seventy-five men gathered to hear Mr. F. L. LaQue of the International Nickel Company discuss Corrosion of Metals at Everett.



W. R. BARBER
Retiring Chairman, Member Executive
Committee



ANDREAS CHRISTENSEN
Member Executive Committee



MYRON W. BLACK
Retiring Member Executive Committee

"We have been fortunate in having a journal such as Pacific Pulp & Paper Industry to publish our notices for these meetings as well as the papers presented.

"Four dinner additional meetings are scheduled for this winter. The next one will be held in Portland on January 19th. On February 4th there will be a meeting in Vancouver, B. C.; on March 2nd there will be one in Olympia and the last one in Port Angeles on April 6th. There may be another in Portland during the latter part of March. Prior to each meeting announcements will be sent out to those interested.

"In regard to the announcements for these meetings—I would like to mention whoever has the job of keeping up the mailing list and getting out the announcements would appreciate any change of address or the names of any one who would be interested in these meetings."

Mr. Barber expressed the appreciation of TAPPI to Mr. Martin Breuer of Du Pont for their courtesy in showing the moving picture "The Wonder World of Chemistry."

A resolution was offered from the floor expressing the appreciation of the Pacific Section of TAPPI to Myron W. Black of the Inland Empire Paper Company of Spokane for his fine work as vice-chairman, chairman last year, and as a member of the committee this year. The resolution was adopted unanimously.

Chairman Barber said that the members of TAPPI were constantly appreciative of the work done by Dr. Benson, who originated the movement to establish a section of TAPPI on the Pacific Coast.

The New Officers

Chairman R. S. Wertheimer of the Nominating and Resolutions Committee reported that his committee offered the following nominations for Pacific Section officers for the year 1936-1937:

Chairman: Carl Fahlstrom.

Vice-Chairman: George H. McGregor.

Secretary-Treasurer: Earl G. Thompson.

Executive Committee: Andreas Christensen and W. R. Barber.

The nominations were seconded and passed unanimously. Chairman Barber handed the gavel to the new chairman, Carl Fahlstrom, with a few remarks to

the effect that he knew Mr. Fahlstrom would receive the same fine cooperation he had received from the members.

Mr. Fahlstrom, upon accepting the chairmanship, said that he would follow Mr. Barber's very successful program and asked that everyone join with him in broadening the work of TAPPI among the men in the mills on the Pacific Coast.

Mr. Fahlstrom, who is technical plant superintendent for the Longview Fibre Company, has served this past year as vice-chairman of TAPPI in charge of programs. He came West in 1927 to join the Longview Fibre organization from the Thilmany Pulp & Paper Company's mill at Kaukauna, Wisconsin, where he was in charge of the laboratory under Dr. Otto Kress, superintendent of manufacture. Mr. Fahlstrom was previously with the Paper Converting Company of Niagara Falls. His start in the industry began with the Kimberly-Clark Company at Kimberly, Wisconsin.

George H. McGregor, the new vice-chairman who will have charge of programs, is technical director of the Pulp Division Weyerhaeuser Timber Company at Longview. Mr. McGregor came to the Pacific Coast in September, 1934, to join the Technical Department of the Pulp Division of the Weyerhaeuser Timber Company, and in March, 1935, he was appointed technical director of the Pulp Division.

Prior to coming to the Coast, Mr. McGregor was for three years instructor in Pulp and Paper Technology at the Institute of Paper Chemistry, Appleton, Wisconsin. After graduating in chemistry from the University of Wisconsin in 1926 Mr. McGregor went to work for the Northwest Paper Company where he was chief chemist for five years. In 1928 and 1929 he studied at the University of Wisconsin under the Northwest Paper Company Fellowship. His work there included chemical engineering and studies in the U. S. Forest Products Laboratory at Madison.

Earl G. Thompson, who was reelected for a second term as secretary-treasurer of the Pacific Section of TAPPI, has been active in the organization since the western group was formed. He is Pacific Northwest representative for the Great Western Electrochemical Company of San Francisco. His reelection for a second term speaks for the success of his administration of the secretary-treasurer's office.

Andreas Christensen, who was reelected a member of the executive committee, is technical director of the British Columbia Pulp & Paper Company, with headquarters in Vancouver, B. C. Prior to going to British Columbia in 1935 Mr. Christensen was with the Grays Harbor Pulp & Paper Company for a year, having come West from the Rhinelander Paper Company, Rhinelander, Wisconsin, where he had been for a number of years. Mr. Christensen has taken an active part in TAPPI both on the Pacific Coast and in Wisconsin.

W. R. Barber, as the retiring chairman of the Pacific Section, automatically becomes a member of the executive committee. Mr. Barber is technical supervisor of the Crown Willamette Paper Company at Camas, Washington. He was elected vice-chairman of the Pacific Section in September, 1934, when the international meeting was held in Portland. At the October, 1935, meeting in Seattle Mr. Barber was elected chairman.

Mr. Barber's Policy

Under the chairmanship of Mr. Barber, the program of dinner meetings in several Northwest cities has been developed to its present success. It has been his constant desire to expand the educational benefits of TAPPI. Realizing that the necessity of staying close to the mill prevented a great many of the younger men from attending the two-day meetings, Mr. Barber felt it was the responsibility of TAPPI to take its educational program to these men, to give them an opportunity to broaden their knowledge of the industry. His interest in developing young men resulted in the extensive dinner meeting program of the past year and of the present one. Its success is attested by the attendance of large numbers of the younger group, eager to obtain knowledge.

Credit for the successful TAPPI programs during the past year goes to Mr. Fahlstrom, who, as vice-chairman was responsible for obtaining the papers presented. The variety of subjects discussed together with the quality of the material contributed to both the attendance and the success of the past year's program.

Among the constructive works of the Pacific Section during the past year was the securing of a grant of \$600 from the Fundamental Research Committee of TAPPI for the continuation of the studies of gelatinization of wood and cellulose under Dr. Edwin C. Jahn of the Wood Conversion Department, School of Forestry, University of Idaho, Moscow, Idaho. Details of this grant are published elsewhere in this issue.

Another constructive step was the obtaining last February from the national organization of TAPPI an annual fund sufficient to send a representative of the Pacific Section to the annual TAPPI meeting in New York City each February. Mr. Barber and Mr. Albert Bankus, who is the Pacific Coast member of the national Executive Committee of TAPPI, attended the New York meeting in February, 1936, and persuaded the Executive Committee of the value to the entire organization of having a representative attend every year.



A. BANKUS
Pacific Coast Member National
Executive Committee of TAPPI

Those Who Made the Meeting a Success

Behind every successful meeting is a large amount of work, endless detail, which those who are charged with responsibility cheerfully perform for the good of the industry.

The meeting at Portland was in charge of William C. Marshall and Roy S. Carey as joint chairmen. That their work was well done is known by everyone who attended. Mr. Marshall is the representative for Heller & Merz and has his offices with the Pacific Coast Supply Company in Portland. Mr. Carey, who also lives in Portland, is Pacific Northwest representative for the National Aniline & Chemical Company, Inc.

Assisting them were H. A. Des Marais, in charge of golf and mill visits; Ray Smythe, who arranged for the entertainment and who kept the crowd happy as master of ceremonies Friday and Saturday evenings.

Mrs. William A. Kelly and Mrs. Raleigh S. Painter, as the ladies' reception committee, saw that the many ladies who attended had an enjoyable time.

The very important work of planning the menus and the decorations was entrusted to Mrs. Kenneth B. Hall, who received many congratulations on her success in pleasing so large a crowd.

Mrs. W. J. Van Arnem, of the Crown Willamette Paper Company's Camas office, handled registration with dispatch, assisted by Mr. Raleigh S. Painter.

The ladies' program included sight-seeing, shopping and bridge.

Saturday Afternoon and Evening

As no business meetings were scheduled for Saturday afternoon a large number of those attending the meeting went to the Oregon-University of California at Los Angeles football game, to see U. C. L. A. win by a 7 to 0 score.

In the evening Retiring Chairman W. R. Barber spoke briefly and introduced the new chairman, Carl Fahlstrom. The rest of the evening was given over to dancing and entertainment.

Below is a partial list of those who attended the regular Fall meeting of the Pacific Section of TAPPI at Portland, November 6th and 7th.

Mr. and Mrs. Fred Alsop, Van Waters & Rogers, Portland; John Ashby, Westminster Paper Co., New Westminster, B. C.; Mr. and Mrs. Ray Austin, Washington Pulp & Paper Co., Port Angeles, Wash.; Geo. S. Backus, Oliver Filters Co., Portland; T. J. Bannan, Western Gear Works, Seattle; Mr. and Mrs. W. R. Barber, Crown Willamette Paper Co., Camas, Wash.; Dr. H. K. Benson, University of Washington, Seattle.

Myron Black, Inland Empire Paper Co., Millwood, Wash.; Mr. and Mrs. Carl E. Braun, Hawley Pulp & Paper Co., Oregon City, Ore.; Mr. and Mrs. G. S. Brazeau, Weyerhaeuser Timber Co., Everett; R. A. Brunner Electric Steel Foundry Co., Portland; Martin Breuer, E. I. du Pont de Nemours, San Francisco; W. E. Buchanan, Appleton Wire Works, Appleton, Wis.; Mr. and Mrs. C. H. Belvin, Chromium Corp. of America, Portland; Mr. and Mrs. Roy Carey, National Aniline & Chem. Co., Portland; Jack Cater, Hawley Pulp & Paper Co., Oregon City, Ore.

Mr. and Mrs. R. E. Chase, R. E. Chase & Co., Tacoma; W. W. Clark, Longview Fibre Co., Longview; N. Cohn, Leeds & Northrup, San Francisco; Mr. and Mrs. J. V. B. Cox, Hercules Powder Co., Portland; J. W. Cronin, Krebs Pigment Co., San Francisco; Prof. C. J. Dernbach, University of Portland, Portland.

Mr. and Mrs. H. A. Des Marais, General Dyestuff Corp., Portland; Mr. and Mrs. George Douglas, Washington Pulp & Paper Corp., Port Angeles, Wash.; R. E. Drain, St. Helens Pulp & Paper Co., St. Helens, Ore.; Mr. and Mrs. E. G. Drew, J. O. Ross Engineering Co., Portland; E. A. Ennvaara, B. C. Pulp & Paper Co., Port Alice, B. C.; J. P. V. Fagan, Puget Sound Pulp & Timber Co., Anacortes, Wash.; Mr. and Mrs. Carl Fahlstrom, Longview Fibre Co., Longview; Jack Flynn, Hooker Electrochemical Co., Tacoma.

Mr. and Mrs. J. D. Fraser, Weyerhaeuser Timber Co., Everett; Dr. Leo Friedman, Oregon State College, Corvallis, Ore.; B. R. Gardner, Penn. Salt & Mfg. Co., Tacoma; W. R. Gibson, Shibley Co., Seattle; Mr. and Mrs. Kenneth Hall, Improved Paper Mach. Co., Portland; R. N. Hammond, Weyerhaeuser Timber Co., Longview.

H. A. Hauff, Weyerhaeuser Timber Co., Longview; Mr. and Mrs. J. E. Hassler, Coast Mfg. & Sales Co., Portland; A. H. Hooker, Jr., Hooker Electrochemical Co., Tacoma; Arnold Hegg, Grays Harbor Pulp & Paper Co., Hoquiam; Mr. and Mrs. W. S. Hodges, Appleton Wire Works, Portland; Mr. and Mrs. W. A. Kelly, Waterbury Felt Co., Portland.

Mr. and Mrs. W. N. Kelly, Weyerhaeuser Timber Co., Longview; Mr. and Mrs. E. E. Kertz, J. W. Bolton, Portland; J. O. Kjome, Scientific Supplies Co., Seattle; Dr. E. C. Lathrop, Crown Willamette Paper Co., Camas; C. J. McAllister, Coast Mfg. & Sales, Portland; G. H. McGregor, Weyerhaeuser Timber Co.,

Longview; Major W. C. McIndoe, U. S. Army Engineers, Portland.

S. K. MacBain, Weyerhaeuser Timber Co., Longview; Mr. and Mrs. W. C. Marshall, Heller & Merz, Portland; J. W. Martin, Schorn Paint Co., Seattle; Thomas E. Moffitt, I. F. Lauck Inc., Seattle; A. M. Mears, Pacific Coast Supply Co., Portland; George Millard, Chemical Engineer, Seattle; Mr. and Mrs. A. G. Natwick, Crown Willamette Paper Co., Camas, Wash.; J. W. Natwick, National Paper Products Co., Port Townsend, Wash.; Fred Nicholson, Stetson-Ross Co., Portland; Floyd Odom, Hawley Pulp & Paper Co., Oregon City, Oregon.

Mr. and Mrs. Adolph Orup, Soundview Pulp Co., Everett; Mr. and Mrs. R. S. Painter, U. S. Gypsum, Portland; Frederick M. Pape, Wilson George Meyer Co., Seattle; Mr. and Mrs. J. W. Peckham, Bristol Co., Seattle; Mrs. R. T. Petrie, Bagley & Sewall, Portland; Mr. and Mrs. A. S. Quinn, Stebbins Engr. & Mfg. Co., Seattle.

Mr. and Mrs. Ralph Reid, Spaulding Pulp & Paper Co., Newberg, Ore.; Mr. and Mrs. H. H. Richmond, Elec. Steel Foundry Co., Portland; J. W. Robinson, Leeds & Northrup, San Francisco; Otto Sangder, Grays Harbor Pulp & Paper Co., Hoquiam; Joseph Scheurman, Cameron Machine Co., Brooklyn, N. Y.; Harlan Scott, Pacific Pulp & Paper Industry, Seattle.

L. R. Sheldahl, Eagle Metal Co., Seattle; Mr. and Mrs. Brian Shera, Penn. Salt & Mfg. Co., Tacoma; Don Shirley, Link-Belt Co., Portland; Mr. and Mrs. A. P. Siebers, Longview Fibre Co., Longview; R. W. Simmer, Fir-Tex Insulating Board Co., St. Helens, Ore.; Ray Smythe, Smythe & Co., Portland; Mr. and Mrs. H. A. Stephens, Allis-Chalmers Co., Portland.

A. Ward Tedrow, Hawley Pulp & Paper Co., Oregon City, Ore.; Mr. and Mrs. Earl G. Thompson, Great Western Elec-Chem. Co., Seattle; V. L. Tipka, Crown Willamette Paper Co., Camas, Wash.; H. A. Vernet, Staley Mfg. Co., Seattle; Mr. and Mrs. R. D. Waddell, Crown Willamette Paper Co., Camas; Mr. and Mrs. L. H. Wear, Taylor Instrument Co., Portland; Fred Weisber, Hawley Pulp & Paper Co., Oregon City, Ore.; R. S. Wertheimer, Longview Fibre Co., Longview; Mr. and Mrs. W. H. Williamson, Shuler & Benninghofen, Portland; J. B. Wilt, Spaulding Pulp & Paper Co., Newberg, Ore.; A. D. Wood, Shaffer Pulp Co., Tacoma; Mr. and Mrs. E. P. Wood, Weyerhaeuser Timber Co., Longview.

SEPTEMBER NEWS PRINT STATISTICS

Production in Canada during September, 1936, amounted to 269,782 tons and shipments to 269,689 tons, according to the News Print Service Bureau. Production in the United States was 72,216 tons and shipments 75,466 tons, making a total United States and Canadian news print production of 341,998 tons and shipments of 345,155 tons. During September, 28,329 tons of news print were made in Newfoundland, so that the total North American production for the month amounted to 370,327 tons. Total production in September, 1935, was 323,855 tons.

The Canadian mills produced 323,988 tons more in the first nine months of 1936 than in the first nine months of 1935, which was an increase of sixteen and four-tenths percent. The output in the United States was practically the same as for the first nine months of 1935, in Newfoundland production was 9,186 tons or three and seven-tenths percent less, with no production in Mexico, making a net increase of 300,266 tons, or ten and three-tenths percent.

Stocks of news print paper at Canadian mills were reported at 65,989 tons at the end of September and 17,397 tons at United States mills, making a combined total of 83,386 tons compared with 86,543 tons on August 31, 1936, and 90,193 tons on September 30, 1935.

KELLY VISITS STATES

Claude Kelly, paper mill superintendent of Pacific Mills, Limited, Ocean Falls, B. C., visited the Crown Zellerbach and Crown Willamette mills in Oregon and Washington during October.

TAPPI MEETING CHAIRMEN



WILLIAM C. MARSHALL



ROY S. CAREY

A RAPID METHOD OF DETERMINING CUPRAMMONIUM VISCOSITY OF PULP

By ELIS ENNEVAARA*

The cuprammonium viscosity test for pulps and rags has been mentioned in the literature on several occasions, and the work done by numerous investigators has proven the value of this test for the cellulose industries. Ostwald, Hagglund, Parson, Bialkowsky, Ross, Stramm and Coster are among those who have made contributions and have emphasized the usefulness of the viscosity test in evaluating and controlling pulp quality.

The viscosity of cellulose in cuprammonium solution is measured by special pipettes and viscosimeter tubes or by employing the falling sphere method. However, this last mentioned method is not suitable for low viscosity material, like commercial pulps, unless the concentration of cellulose is high, which makes the solution difficult to prepare.

Clibbens and Geake of the Shirley Institute have made use of the capillary tube and low concentrations of cellulose. The TAPPI Standard Method follows a similar procedure.

The disadvantage of all commonly known methods is the time required for a test, and this is a big drawback when it is desired to make use of the viscosity test in processes such as cooking and bleaching. There are possibly some rapid methods in use by pulp manufacturers, but few have been described in the trade literature. Recently, however Der Papierfabrikant published description of two methods that are shorter. One of them by Nikitin and Nagrodsky is a rapid viscosity method for unbleached pulp to control the cooking of rayon pulp. Briefly, this method requires bleaching a sample of the unbleached pulp with an amount of bleach calculated from the Bjorkman number. The dried bleached sample is then moistened with a few cc.'s of 20% NH_4OH and dissolved in cuprammonium solution by vigorous shaking for 10 minutes in a dark bottle containing a steel ball. A viscosity tube is employed for the measurement. The test can be done in 2 hours and the results are reported to be sufficiently accurate for operations. The authors claim that this control is of value because two cooks with the same lignin content do not always have the same viscosity.

The other method of Fabel uses 12 grams of copper, 200 grams of NH_4OH and 2 grams of glucose per liter. Shredded samples of pulp with cuprammonium solution are put into dark bottles provided with glass stoppers. In a specially designed machine, the bottles are given 60 shakes per minute for 15 minutes, which is considered sufficient for complete dissolving. An Ostwald Viscosi-



meter with specified water efflux is used to measure the viscosity, which is expressed in Ost grade. This method takes about one hour and is reported to give dependable results except with over bleached pulps.

The rest of this paper will be devoted to a description of a rapid method based on the TAPPI standard and which makes use of cuprammonium solution of similar strength and also uses standard viscosity tubes. Results can be obtained within half an hour and the method has been applied successfully to process control. Duplicate samples usually check within 3 to 4%.

Equipment

The cuprammonium solution is stored in a half-gallon, black painted aspirator bottle, surrounded by a water jacket and the solution kept under a head of 2 to 3 feet of water. By opening a ground-glass stop-cock, the solution is forced into a 50 cc's filling burette for accurate and convenient measuring.

Fig. 1 shows a sketch of this storage and cooling arrangement. A suction flask (A) is placed on a shelf about 2 or 3 feet above the desk and tap water is kept running into the flask to keep it full. There is a continuous overflow through the jet (B) to the water jacket (C) of the aspirator bottle (D) and an overflow from the cooling jacket to the sink. The pressure chamber (E) is a half gallon bottle placed on the desk and provided with a two-hole rubber stopper, through which two glass tubes pass. One of these (F) goes to the bottom of the bottle, while the other tube (G) is shorter and connects with the glass tube (H)

by means of rubber tubing. The aspirator bottle is filled with the cuprammonium solution while the pressure chamber is partly filled with concentrated NH_4OH . Both bottles are well sealed and pressure is maintained by joining (A) with (F) by means of rubber tubing and bent glass tubing. By using this arrangement in routine work more reliable results are obtained.

The pulp viscosity solution is prepared by vigorous stirring in a small monel or steel cylinder with a tight fitting screwed cover. The inside diameter of the cylinder is $1\frac{1}{2}$ " and the height $2\frac{1}{2}$ " while the wall thickness is $\frac{1}{8}$ ". The stirrer consists of a steel or glass rod with the lower end flattened and bent to form an arm, about $\frac{3}{8}$ " in length and at 90° to the shaft. It is curved slightly to establish a downward flow of the solution in the centre of the cylinder. The cover has a $\frac{1}{2}$ " hole for stirrer shaft and packing, which consists of a rubber stopper through which a $\frac{1}{8}$ " hole has been bored. The stirrer is driven by a 1/40 H.P. motor with a friction disc drive, which allows of variable speed. A sketch of the arrangement is shown in Fig. 1.

As mentioned earlier in this paper, the viscosity tubes have similar specifications to those of the TAPPI standard method except that the steel pellet is not required. To standardize these tubes for the rapid method it is first of all necessary to have the equipment for TAPPI standard viscosity method and then run comparative tests on the same pulp using the TAPPI standard method and also using this rapid method. From these tests it is possible to draw a curve showing the relation between the standard cuprammonium viscosity test versus the efflux time for a tube using the rapid method. This chart is then used for determining the viscosity of unknown pulps.

For quick routine work it is necessary to make up another chart that serves for consistency corrections after the actual moisture content of the sample has been determined.

Method

A well-washed sample of pulp from the bleacher or a dried sample from the machine is disintegrated and three or four thin sheets are made on a sheet machine, lightly pressed, and hung for about 5 minutes in a blower oven, the temperature of which is maintained at 105°C . The sheets are then removed and cooled for 2 or 3 minutes, after which they are cut into squares of about $\frac{1}{8}$ " to $\frac{1}{4}$ ".

The squares are put into a sample jar and well mixed. Two samples are accurately weighed out, a 0.5 gm. sample is used for determining the moisture and

*Research Chemist, British Columbia Pulp & Paper Co., Port Alice, B. C. Presented at the Fall Meeting of the Pacific Section of TAPPI, Hotel Multnomah, Portland, Oregon, November 6th and 7th, 1936.

dried in an oven for 30 minutes at a temperature of 110°C . The second sample weighed out for the viscosity test is 0.5376 grms. which corresponds to 0.5 grms. a 7% moisture content. This weight taken will vary with local conditions, such as sheet making, drying and relative humidity conditions.

The sample is placed in the mixer, 50 cc. of cuprammonium solution added from the burette and the cover with stirrer screwed on. The mixer is clamped to a stand and the stirrer connected to the motor drive. A small water bath is placed under the mixer and filled with water at 20°C . The motor is started and the stirring shaft runs at a speed of 4500 r.p.m. for exactly 10 minutes, after which time the pulp is completely dissolved and the motor stopped. Three more minutes are allowed for deaerating the solution. The mixer is taken from the stand and the cover and stirrer removed, the temperature of the solution checked and corrected to 20°C .

The solution is now poured into the viscosity tube and since the capacity of the tube is approximately 20ccs. two determinations can be made from each mix and the average efflux time is noted. The approximate viscosity can now be obtained from the previously mentioned viscosity chart, and as soon as the moisture content of the sample has been determined, a small correction, if neces-

sary, can be made to the viscosity from the consistency correction chart.

It has been found that there is no effect on viscosity results from small variations in stirring speed or time, out temperature during the dissolving period should be maintained at 20°C . Lower temperature seem to give higher viscosity values and higher temperatures give lower viscosity.

The method described above should not be considered as an attempt to replace the standard method, but merely as an aid for control purposes. As such, the method has proved to be of value in maintaining pulp quality, especially if the product is intended for rayon or other industries requiring strict specifications of their raw material.

Mr. Ennevaara is a graduate in chemical engineering from the University of Helsingfors. Following his graduation he spent two years as an apprentice and then three and a half years as assistant technical director of the Kymmene A. B. pulp mill in Finland.

In 1927 he came to Canada and went to work for the International Paper Company at Gatineau, Quebec. There he did control work in the laboratory. From 1929 to 1930 he was sales-service engineer for the Restigouche Company, Limited. In 1932 Mr. Ennevaara was transferred

to the Fraser Companies, Limited, mill at Edmunston, N. B.

In the fall of 1934 Mr. Ennevaara left Edmunston to become research chemist for the British Columbia Pulp & Paper Company at Port Alice, B. C.

SOUNDVIEW STOCKHOLDERS APPROVE PLAN

Stockholders of the Soundview Pulp Company, at a meeting in San Francisco, October 19th, approved a plan for the issuance of additional stock to meet tax requirements on undistributed earnings. A stock issue of \$2,500,000 of 6 percent \$100 preferred stock has been authorized and will be used to pay special dividends.

A special dividend was voted by the directors on October 19th to be paid either in cash or by 1/200th share of the new preferred stock.

CROWN ZELLERBACH DECLARES DIVIDEND

Directors of the Crown Zellerbach Corporation have declared a dividend for the quarter of \$1.50 on Class A and B preference stock, payable December 1st to stock of record November 13th. This is the quarterly rate to which the stock is entitled, but this dividend is to apply on dividends in arrears. After the December 1st payment there will be \$17.50 a share in unpaid dividends accumulated.

APPARATUS FOR RAPID VISCOSITY METHOD

SHOWING.

STIRRING EQUIPMENT
SOLUTION STORAGE &
COOLING ARRANGEMENT

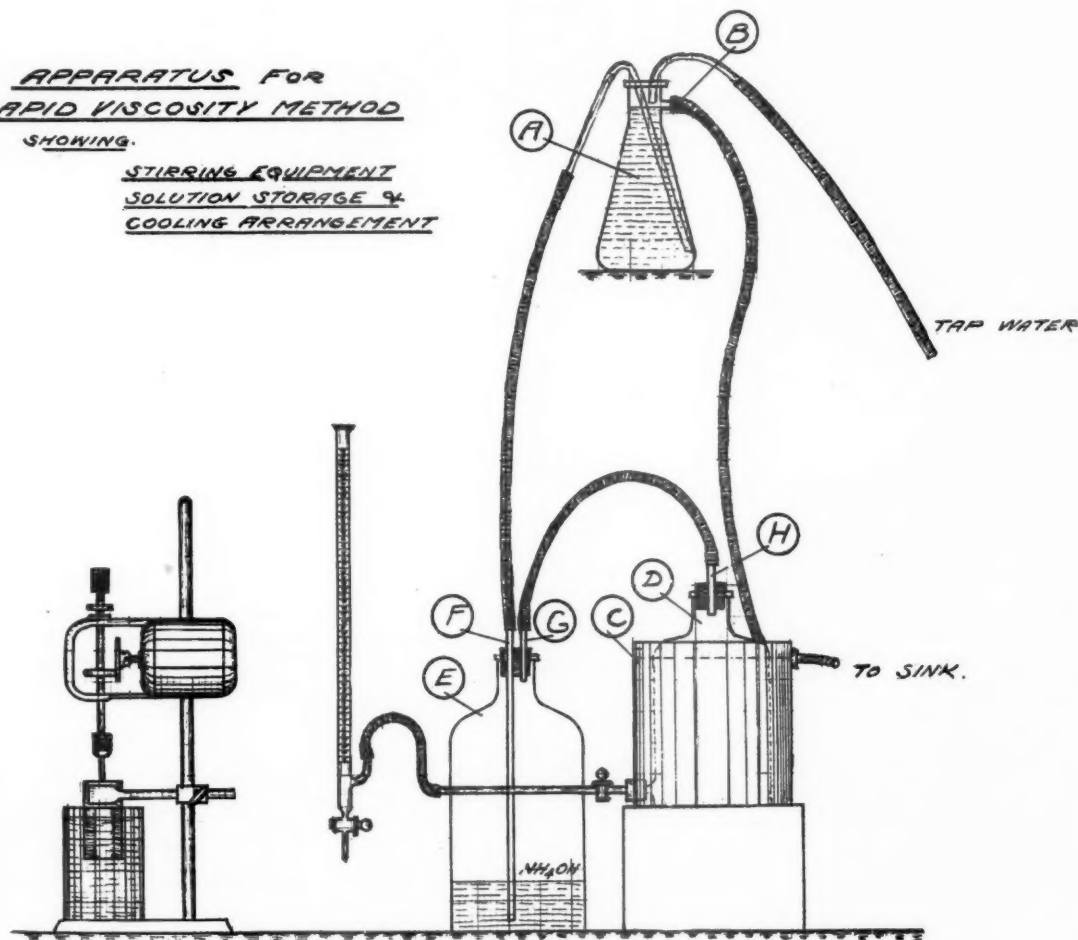


Figure 1

SOLVING A ROLL HANDLING and STORAGE PROBLEM

When the Washington Pulp & Paper Division of the Crown Zellerbach Corporation at Port Angeles recently found it desirable to increase the storage capacity back of the dock to handle the news print which this mill produces, the problem of safely and economically handling the paper into and out of storage was of major importance.

A simple and very efficient method of handling the news print rolls was worked out by the management and engineering departments in conjunction with the Colby Steel & Engineering Company of Seattle, who have furnished handling equipment of both crane and truck types for many of the pulp and paper mills in the Northwest.

After the news print rolls are wrapped and headed on the second floor of the plant, they are carried over the railway spur by an overhead conveyor or monorail system. The news print rolls are transported by this overhead carrier in a horizontal position. In the warehouse a long table was built with a slight incline toward one end where an electrically operated tilting table was installed.

The overhead conveyor deposits the rolls horizontally on the upper end of this table and they roll by gravity to the tilting table and where they are tilted, two at a time, into an upright position and placed on what are termed "cargo boards" or "pallets."

It is necessary to handle the news print rolls very carefully to prevent damage to the paper and possible injury to the men doing the work. The management of the Washington Pulp & Paper news print mill places safety of its employees first and utilizes every possible safeguard to avoid accidents. In developing this roll handling system safety was engineered into the equipment and methods to help maintain the mill's excellent safety record.

The larger news print rolls, 72 inches in length, weight from 1800 to 1900 pounds each. Two of these rolls are up ended simultaneously by the tilting table and placed safely on the cargo boards without any chance of damage or injury.

An Elwell-Parker telescopic type fork truck was installed to handle the rolls. It takes the rolls from the tilting table, as shown in paragraph No. 1, and rapidly and safely moves them over the concrete floor to the point of storage. This typical moving operation is shown in picture No. 2.

This Elwell-Parker machine has a fork travel of 158 inches or 13 feet 2 inches above the floor. Handling two rolls at a time, each weighing from 1800 to 1900 pounds, it is able to high pile rolls three high, as is shown in photograph No. 3. In this way all of the storage space clear up to the roof is utilized and the news print rolls are kept in perfect shape.

The cargo board, upon which the rolls are carried and stacked, was designed by the Colby Steel and Engineering Company, and is known as a "double sided board." The lighter lumber at the bottom evenly distributes the weight over the lower tier of rolls, so that no damage is caused to the ends of the roll.

This same electric truck is used for removing the rolls from storage for shipment. The machine simply picks up the board with the two or more rolls on it, depending upon the length of the rolls, and takes them to the side of the railway car or moves them out to the dock where the loading crew takes charge and loads them into the ship or barge.

The Elwell-Parker fork truck, with its telescopic feature, is an interesting device to watch in operation. The machine turns around in its own length as it steers with all four wheels. It is equipped with all the latest automatic safety features, preventing any chance of injury to the operators or of damage to the rolls being handled.

This material handling operation in the Washington Pulp & Paper Division's plant at Port Angeles would give any manufacturer some very good ideas as to what could be accomplished in his own plant, whether he is interested in pulp, paper or the storing of any manufactured commodity in package form such as case goods, sacks, barrels or cartons.

PULP PRICES

Under the heading "Wide Spread in Sulphite Prices," the Daily Mill Stock Reporter of New York recently made the following interesting comments on the status of the pulp market, and crediting domestic pulp mills with the desire to protect their customers as long as possible from an increase in the price of domestic bleached sulphite pulp.

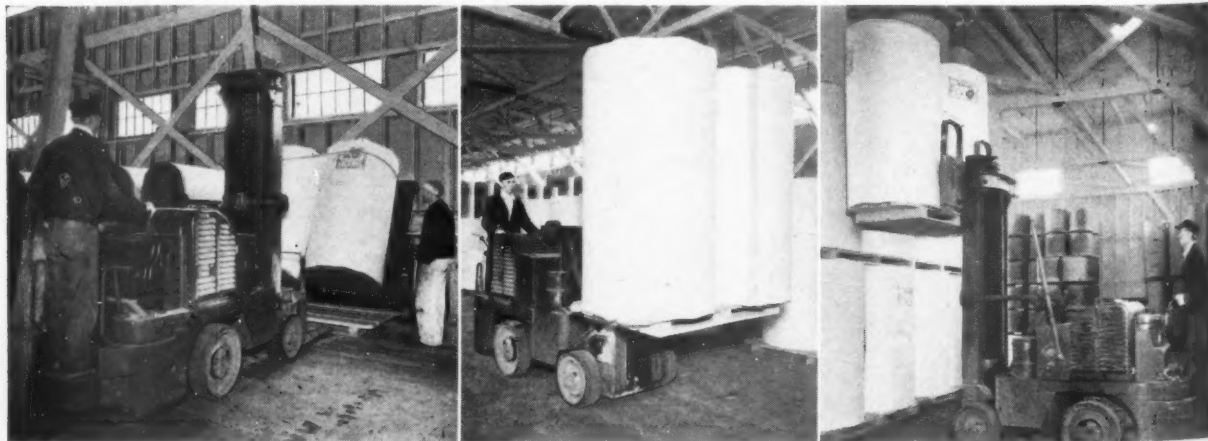
"It is something unusual for quotations on imported and domestic bleached sulphite pulp to show so wide a variance as now happens to be the case. The basis quoted by domestic pulp manufacturers continues to be 2.65c a pound for prime quality for shipment during the last quarter of this year, ex dock American Atlantic seaboard. On the other hand, quotations on imported prime bleached sulphite generally start from 2.90c a pound ex dock here and range up to 3.25c and even higher, depending on the pulp concerned as well as the shipment position.

"Thus, a spread of at least \$5 a ton exists between prices of foreign and domestic bleached sulphite, and the probabilities are that in most cases there is a wider difference than this because producers abroad mostly are demanding more than 2.90c for bleached sulphite, particularly if in any near delivery position.

"Opinion in the trade is that there will be an advance in domestic bleached sulphite for next year, but it is not expected that manufacturers in this country will raise their prices to the levels which imported sulphite has reached. It seems likely an increase of a couple of dollars per ton, or perhaps \$3, will be made in domestic sulphite quotations. Domestic manufacturers undoubtedly could take advantage of the strong market condition prevailing and run their prices upward, but they are considering the converting mills and doing what they can to keep the market from advancing unduly against their consuming customers."

LINSLEY VISITS HAWAII

Aboard the liner "Lurline," leaving for a business and pleasure trip in Hawaii, sailed George J. Linsley from San Francisco October 23. Mr. Linsley is Pacific Coast manager of the Taylor Instrument Companies. He expects to be gone a month. During Mr. Linsley's absence, J. P. Dolan has command of the San Francisco office of the Taylor firm.



At the left, the Elwell-Parker fork truck takes two 72-inch news print rolls from the tilting table. Center, carrying the two rolls each weighing from 1800 to 1900 pounds to storage. At the right, stacking the large rolls three high to utilize all space up to roof.

LABORATORY STUDIES OF SULFITE WASTE LIQUOR

By DR. H. K. BENSON*

In view of the difficulties involved in the disposal of the waste liquor of sulfite pulp mills it seemed of pertinent interest to enlarge our fundamental knowledge of the nature and properties of this liquid waste product. In these studies two principal objectives were kept in view. First, a more accurate and fuller knowledge of the components which caused an alteration or pollution of the water bodies into which the waste was discharged and second an evaluation of properties or characteristics of the waste for useful service in industry.

Fermentation Studies

The first objective was embodied in a doctorate thesis of A. M. Partansky in the borderland field of chemistry and bacteriology. This study covered a period of nearly three years and sought to answer the simple question of what becomes of sulfite waste liquor when it is discharged into sea water or fresh water and subjected to the natural processes that occur in such water bodies. In a three-year study of the pollution of Oakland Bay, in Puget Sound the writer (1) reported that there is no accumulation of organic matter in the bay and concluded that it was evidently being broken down by the action of micro organisms naturally occurring in the sea water. What these organisms were and the mechanism involved in the destruction of the organic matter were not known.

In order that a study of these factors might be made under controlled scientific conditions a financial grant-in-aid was obtained from the National Research Council and a laboratory in the Oceanographic Building of the University of Washington was equipped for such an investigation. The object of this experimental investigation was to study the influence of temperature and dilution of the sulphite waste liquor by sea water on the rate and extent of its decomposition and stabilization under strictly anaerobic conditions of the sea water mud and, if possible, determine the nature of the residual products produced during the fermentation.

Three different temperatures to approximate as closely as possible those of natural conditions were selected: (1) 9° C, the average temperature of the Puget Sound waters; (2) 21° C, the temperature commonly reached by the waters retained on beaches at low tide during the hot period of the year; (3) 36° C, the maximum summer temperature of sea mud exposed at low tide.

Four dilutions of sulfite liquor with sea water ranging from 0.38 grams of solids to 7.39 grams were used. Mud was taken at low tide from the Huston oyster beds at Mud Bay, seven miles south of Olympia, Washington, and ad-



ded to the fermentation vessels at the rate of 4.5 kilograms in 10 liter bottles. In order to properly describe the sulfite liquor it was necessary to devise a more accurate method for the sulfur and such a determination (2) was worked out in cooperation with R. N. Pollock, chemist with the Rainier Pulp and Paper Company at Shelton.

It was found that at the end of 310 days fermentation at 36° C was complete, at 21° C it had practically ceased but at 9° C the cultures were still fermenting. Sugars of the liquor were destroyed to the extent of at least 85 per cent but that the extent of gasification, amounting to 25 per cent of the carbon input was greater than could be accounted for from the decomposition of sugars alone thus indicating that non sugar components were also subject to bacterial action. From the analysis of the gases evolved by fermentation, it was found that carbon dioxide resulted from the aerobic stage and methane and hydrogen sulfide were reduction products. The oxygen consumed value of the liquor after fermentation had ceased was equal to about 50 per cent of the original. This resultant product was a stable material of a faint odor and after aeration did not cause any change in the oxygen consumed. From other considerations it was found that this bacterially resistant material was subject to biologic decomposition by moulds and organisms similar to those active in the decay of wood.

In order that the effect of mixed cultures upon fermentation might be studied in greater detail and special attention might be given to the exact nature of changes taking place and the kinds of organic substances remaining unfermented might be ascertained, a second phase of the investigation was undertaken. This

study was made possible by a financial grant by a group of Puget Sound sulfite mills.

In this study gallon glass jars were used for fermentation vessels. The mud was collected from twelve different sources which included lakes, rivers, brackish sloughs and garden soils. The bottles were incubated for 340 days at 36° C. The sulfite liquor was neutralized with calcium carbonate at boiling temperature to precipitate the free and loosely combined SO_2 . The gas produced was removed, measured and analyzed at frequent intervals by means of an improved Orsat apparatus. In order to analyze the solution periodically and at the end of the fermentation it became necessary to develop a complete and systematic analysis which has since been published (4). In this scheme of analysis the composition of sulfite liquor in various stages of fermentation was expressed in terms of solids, formic acid, acetic acid, calcium oxide, sulfur as sulfate, free SO_2 , loosely combined SO_2 and sulfone sulfur, sugars as pentoses and hexoses, lignin, furfural, acetone, ethyl alcohol and methyl alcohol.

With this improved technique it was possible to add considerably to our knowledge both of the micro organisms and the mechanism involved. Under the direction of Dr. B. S. Henry, of the Bacteriology Department, bacterial counts were made during the entire fermentation periods. In one publication (5) occurs a description of 13 bacteria that were isolated and studied in pure culture. They belonged to five species not heretofore described. In another study (6) the bacteria that were active in gasifying the organic matter of sulfite liquor were isolated, and 19 strains selected for detailed pure culture study. The results of this study show that five distinct and new species were present. As a group the new species are characterized by their diversified and vigorous saccharolytic action. One of them named *Clostridium polyfermenticum* caused active foaming within a few hours and in two days converted all of the sugars in sulfite liquor into butyric and acetic acids. Since commercial extraction methods for these acids from water are now in operation in the wood distillation industry, it is obvious that the use of the new organisms would be effective in the separation of sugars from waste liquor if so desired. Since all of these organisms require the presence of some protein matter, it is obvious that waste liquor and domestic sewage are mutually helpful in their gasification by these organisms.

The results of the 340 days' incubation study (7) enable us to form a nearly complete conclusion regarding the gasification of sulfite liquor. A methane type of fermentation took place which resulted in a complete gasification of the sulfite liquor except in lignin. That is, all sugars both pentoses and hexoses, organic compounds were destroyed and the lignin

*Professor of Chemical Engineering, University of Washington, Seattle. Presented at the Fall Meeting of the Pacific Coast Section of TAPPI, Hotel Multnomah, Portland, Oregon, November 6th and 7th, 1936.

lost nearly half of its methoxyl content. The gases evolved were carbon dioxide, methane and hydrogen. Computed on the basis of sulfite waste liquor formed per ton of pulp manufactured the heating value of the gases produced during fermentation was equal to 4,767,500 B.T.U. Seventy-three per cent of the gas was produced in the first 40 days and 92 per cent in 70 days.

Although the lignin sulfonic acids of the waste liquor had lost a part of its methoxyl content, it still retained its characteristic properties. We are now justified in drawing a final conclusion (8) by interpreting these experiments as follows: The pollution effect of sulfite waste liquor is due chiefly to the sugars. These may be destroyed by gasification in anaerobic methane by fermentation leaving the lignin practically unchanged. The sugars can also be changed into butyric acid by a pure culture fermentation and the acid extracted leaving only the lignin in the residue, but its 10 day B.O.D. is only one-fifth of that of the original liquor. Hence, its polluting effect is slight. When greatly diluted with water, lignin, however, is completely oxidized biochemically to carbon dioxide and water. If the lignin is first removed from waste liquor, then the problem of disposal is very simple being precisely the same as that of sugar refinery residues whose short fermentation periods in tanks and ponds completely destroy the organic matter and freeing it of polluting effects when discharged into small streams or water courses. If the lignin is not removed, the sugars may be quickly changed into butyric acid or slowly by methane fermentation into gases and the residues greatly diluted in order to oxidize biochemically the lignin. In practice, large dilution will, of course, oxidize all organic matter as is evidenced by the constancy of composition of sea water.

No evidence of toxicity to micro organisms by sulfite waste liquor was found in the investigation, lignin retarding the fermentation but not destroying it. There remains yet the problem of methane fermentation in pure culture to be solved, and it is now the subject of a very interesting doctorate thesis that is well under way. If a method for controlling and especially accelerating methane fermentation can be found it will, of course, make possible the discharge of waste liquor into small water courses without detriment or danger of pollution.

Adhesive Studies

Two minor studies made by chemical engineering students in their undergraduate thesis work touch upon the adhesive properties of sulfite waste liquor. The well known adhesives of industry glue, casein, and starch are all of a colloidal nature. The organic substances in solution in waste liquor are derived from the non cellulose components of the wood such as lignin, pentosans, hexosans, and resins, all of which are colloidal in character. Under the stresses set up by acids,

temperature and pressure these natural substances are converted into sugars and lignin derivatives which resemble the glue-like bodies obtained from various plant and animal organisms.

In the first one of these studies Mr. J. J. Maas laid out two lines of experimental procedure: (1) its effect upon the plasticity and workability of clay and (2) its effect upon the workability of Portland Cement mixtures. For the measurement of the plasticity of clay; the Bingham-Green plastometer is generally used. It provides a means of measuring the rates of flow of a plastic material through an orifice under different pressures using compressed air for the application of pressure which is measured by a manometer. Maas designed a much simpler and cheaper device out of brass pipe with a steel plunger similar to the ordinary grease gun. Instead of a handle his "pressure gun" as he called it had a platform on which varying loads were placed to force the clay through the gun and orifice. The rate of flow of the clay paste through the orifice was then determined by catching and weighing the amount of clay forced through the orifice per unit time.

In his experimental work, Maas used a low plasticity Oregon clay which was screened through a 40 mesh screen. The clay-water ratio was kept constant, the sulphite liquor being added on the basis of its solids. With the use of different mixes, he was able to plot the pressures (in kg) against rate of flow (in grams/quarter minute) and from these values obtain an expression of yield and mobility values of the clay. Although no conclusion was drawn from his measurements of plasticity, the important effect was that less water was required to bring the clay to a given workability when sulfite liquor had been added. This lesser quantity of water produces less shrinkage in drying and consequently the breakage of ceramic wares is less when sulfite liquor is added.

In his study of the workability of Portland cement mixes, Maas used an apparatus made up of a small dynamometer outfit developed in a previous investigation on the workability of cement mixtures containing metallic soaps. This apparatus measures the force required to turn a small cylindrical mixer in a vertical plane, the inside of whose circumference is studded with nails. Thus the factors effecting the force are: (1) the resistance to pulling the nails through the concrete mass and (2) the distance the concrete is carried up from the bottom of the mixer by rotation. The apparatus which measures the force required to turn the mixer is a paper scale which is calibrated to read the force in grams by suspending a series of weights on the arm and noting the deflections recorded on the scale.

In making the tests with the dynamometer the following mixture was used: 1000 grams sand, 300 grams cement and 300 grams water. The sand and cement were mixed dry after which the 300 grams of water containing varying amounts of sulfite waste solids were added. The motor was immediately restarted and the readings of the force as read on the scale were taken at one minute intervals for a period of ten minutes. These results show that the addition of sulfite waste solids definitely increases the workability of cement mixtures in the ratio of about 895 to 590. The initial smaller quantities of sulfite liquor is, however, much greater than

the additional increase in workability effected by the further addition of the liquor.

In an attempt to interpret these facts the surface tension of solutions of sulfite liquor solids in water was determined with a DuNuoy Tensiometer. These results showed first that the initial small quantities of sulfite waste solids effected a much greater lowering of surface tension than the additional lowering effected by larger amounts of the sulfite solids, and second that a decrease in surface tension of the liquid is accompanied by an increase in workability.

When compressive strength tests were later made on the mixes employed it was found that even the smaller initial quantities of sulphite liquor decreased the strength from 2000 lbs./sq. in. to as much as 50 lbs./sq. in., used with larger amounts the cement blocks did not set, thus showing the futility of its use in Portland cement mixes.

As a Road Binder

One of the incidental results of the effect of adding sulfite liquor to mineral aggregates was the measurement of the so-called dry strength of plastic bodies. Starting with a clay that conformed to the specifications for clay binders laid down by the Bureau of Public Roads, and keeping constant the amounts of water and clay, varying quantities of sulfite solids were added to mixes, later made into cylinders for compressive strength tests. The compressive strength of air dried clay with water alone was 550 lbs./sq. in. and with sulfite solids added ranged from 720 to 750 lbs./sq. in.

These results on the increase of dry strength of clay mixtures led Marion H. Norton to carry on an investigation on the effects of adding sulfite waste liquor on a graded soil mixture, with especial reference to its use as a road binder. For the soil mixture the composition recommended by the Bureau of Public Roads was approximated and its liquid limits 21.0 and plasticity index 7.0. were well within the range specified for Group A-1 aggregates.

The experimental procedure consisted in making up mixtures of soil, sulfite liquor, lime and calcium chloride, molding them into 2-inch cubes and testing them when dry for compressive strength. These strength values were plotted and curves drawn through the field of values. The variation in these values was due to the tendency of sulfite liquor to migrate toward the surface leaving the cubes non homogeneous. As the evaporating water flowed toward the surface, the colloidal particles apparently moved along with it. Consequently, when dry the cubes had a low sulfite liquor concentration in the center and a high concentration at each face. To overcome this movement of the liquor, the cubes were removed from the mould as soon as they became dry enough to retain their shape.

Qualitatively it may be said from the tests made that the presence of sulfite liquor in a soil increases both the cohesiveness and the elasticity of its particles. The effect of lime was found to increase the compressive strength if not in excess of 10% of the solids. Larger quantities apparently brings about a precipitation with a loss of cohesion. Smaller amounts of lime act to prevent the migration of liquor toward the surface without destroying the colloidal properties. In mixing the sulfite liquor with the soil, it was noticed that the liquor showed no tendency to wet the soil

- (1) H. K. Benson, *Ind. Eng. Chem.* 24, 1302 (1932).
- (2) Pollock and Partansky, *Ind. Eng. Chem. Anal. Ed.* 6, 330 (1934).
- (3) Benson and Partansky, *Proc. Nat. Acad. Sci.* Vol. 20, No. 10, pp. 542-551 (1934).
- (4) Partansky and Benson, *Paper Trade Journal* 52, No. 7, 29-35 (1936).
- (5) Henry and Partansky, *Proc. Nat. Acad. Sci.* 21, No. 4, 191-200 (1935).
- (6) Partansky and Henry, *Jour. Bact.* 30, 559 (1935).
- (7) Partansky and Benson, *Proc. Nat. Acad. Sci.* 22, No. 3, pp. 133-138 (1936).
- (8) Benson and Partansky, *Ind. Eng. Chem.* 28, 738 (1936).

particles. This is contrary to the observation previously made that sulfite solids decrease the surface tension of water and such a liquid should wet soil particles more easily than does pure water. Inhibiting the migration of the colloids by preferential adsorption on soil particles is the objective to be sought in future laboratory studies of waste liquor.

It is of interest to recognize at this point the use of waste liquor for dust laying in which the property above noted constitute an important factor. Since 1924 most of the waste liquor of the Inland Empire Company has been used for dust laying; at first by the township in which the plant is located on the natural soil of the roads. It was found quite satisfactory and the adjoining townships likewise used it on their roads. In 1932, the city of Spokane began to substitute waste liquor for water in its sprinklers and since that date these authorities have taken all the waste liquor available during seven or eight months of the year. In the streets of residential districts two to three applications are required each season to make a hard practically dustless surface on the street.

More recently the Rainier Pulp and Paper Company of Shelton has similarly utilized a portion of its sulfite waste for the so called dust proofing of roads. In 1934, a small experimental unit was set up to produce a concentrated liquid con-

taining 46 to 48 per cent solids. Such a liquid was convenient for transportation in tanks that could be filled and emptied by pumping. Before application to roads, the material is usually diluted 50-50 with water resulting in a liquid that contains about double the solids in ordinary digester waste-liquor. Like in Spokane, considerable success has been attained from the outset for this use of sulfite waste. During the first year some sixty miles of roadway were dustproofed in Southwestern Washington and during the present year this mileage has increased to 1500 miles in Washington, California and Montana and shipments have been made to New Jersey, Maryland and Alaska.

Work carried on by the writer with this material on the track in the athletic stadium of the University, using the same formulas as are used in Sweden has given indications of the usefulness of the material as a road binder. That is to say, by changing the density of the liquid and by utilizing the effect of electrolytes and pressure on the surface tension it is possible to cause the material to adhere to mineral particles, even though they are non colloidal. In this way the migration of the sulfite waste solids to the surfaces is prevented and they act as an adhesive binder similar to petroleum and tar in the respective macadams for which they are noted.

Other Studies

In addition to the studies reported in this paper, Professor Beuschlein and his students have been interested in certain chemical engineering operations that involve the properties of sulfite waste liquor. These have dealt with studies of the heat transfer coefficients for evaporator and heaters employed in the concentration of sulfite waste and in a study of the relations of density and viscosity in varying concentrations of solids contained in the liquid.

Professor Kobe has further studied the colloidal properties of sulfite waste liquor. Results obtained during the ammoniation of sulfite waste liquor showed that the precipitation of the solid by ions was influenced by salts already present. This leads to a general study now in progress on the precipitation by ions and non-electrolytes, and the movement of the colloidal particles under the influence of the electric current.

In concluding this brief outline of recent studies of the properties of sulfite waste, one should emphasize the importance of more fully knowing its properties in order that it may take its proper position in American industry. Its successful utilization in this state and its utilization at Wausau, Wisconsin, for fuel, plastics, tanning and other purposes bear testimony to the fruitfulness of research in this field of pulp mill operations.

ORIENTAL SITUATION IMPROVING

Stability is rapidly returning to the Orient, despite all the reports of friction and disturbance emanating from there, according to H. J. McKenzie, of Export Sales Company, foreign representatives of Powell River Company and Pacific Mills, Ltd., the two big British Columbia newsprint mills, in the Far East.

Mr. McKenzie has recently returned to his Vancouver head office after spending ten and a half months on other side of the Pacific. He visited all the chief cities of Japan and spent some weeks in Hongkong, Shanghai, Peiping and other Chinese cities. Then he went to Manchoukuo.

Demand for newsprint and pulp are better today in China and Japan than ever before, reports Mr. McKenzie. Consumption of newsprint is so great in Japan that she has had to curtail her exports to China. The prospect of getting much newsprint from Manchoukuo during the next decade is remote, Mr. McKenzie believes, because of the lack of settlement in that region and the high cost of operation due to transportation difficulties. He believes that Japan and China will be compelled to depend more rather than less on the Pacific Northwest in the future as a source of pulp and paper.

"Conditions are much improved in China, due to good crops in the interior, more stable exchange and the effective government by Chiang-kai-shek, who has shown himself to be the country's strong man," said Mr. McKenzie. "The extent of our sales of newsprint in the Oriental market depends solely on price. China in particular is an open market, and we must meet world competition. German paper gained a strong foothold there because Germany's foreign trade is still on virtually a barter basis, and since she buys in abundance in the Orient she is pre-

pared to sell there too on most favorable terms. The blocked mark system and other forms of compensated foreign trade by means of which Germany has been able to take advantage over other nations operating in an orthodox way seem to be giving way, and I believe that the new international currency alignment will ultimately persuade Germany to bring her prices more in line with her competitors."

SUGGESTS BETTER FOREST PROTECTION

Forest protection is again before the British Columbia government, and it is likely that a larger appropriation for this purpose will be made this year as a result of disclosures by forestry experts that huge losses to timber have been the direct result of inadequate safeguards.

Chief Forester E. C. Manning made a plea before the legislature's forestry committee for larger fund distribution for fire protection, claiming that only one third of the revenue collected by the government from the forests was turned back in protection and conservation measures.

Mr. Manning believes that income from royalties should be set aside as a capital fund for forests. This was originally recommended by a commission which investigated the province's timber problems in 1912. Mr. Manning believes the present financial arrangement for forest protection is unsatisfactory.

He believes that steps should be taken at once to secure regeneration of coast forests, and that reforestation methods should be made compulsory on timber disposed of under licenses as well as on timber crown granted that is unsuitable for farming.

In twenty-five years of organized forestry service in British Columbia, said Mr. Manning, the forests have produced revenues to the government totalling \$67,500,000, yet of that amount all but \$17,000,000 had been paid into general revenue account.

F. D. Mulholland, chief of the British Columbia forest survey, told the committee a similar story, declaring that continuation of the present ruthless policy would doom an industry employing 30,000 men and yielding a government revenue of \$3,000,000 a year. He said that 75 years ago there was 226 billion feet of timber in this province, but now there was only 162 billion, of which only about one-half was accessible.

Mr. Mulholland said that of the cut over area 789,000 acres had been satisfactorily restocked, 466,000 acres sparsely restocked and 811,000 acres not reforested at all.

The capacity of coast forests for a sustained annual yield of big timber was slightly less than 2,000,000,000 feet, said Mr. Mulholland, but the average annual cut exceeded that figure by half a billion feet.

A sustained yield policy, with greater co-operation between forester and logger, was urged by Mr. Mulholland.

FLINTKOTE INCOME SMALLER

The Flintkote Company and subsidiaries report for the forty weeks ended October 10, net income amounting to \$944,881, as compared with \$1,094,488 for the forty weeks ended October 5, 1935. After eliminating extraordinary income received in settlement of patent infringements and other claims, profit was \$939,126, equal to \$1.14 a share, against \$991,169, or \$1.48 a share. For twelve weeks ended October 10, net income was \$473,482, or 71 cents a share, against \$469,555, or 70 cents a share in twelve weeks ended October 5, 1935.

McMASTER EAST

A. E. McMaster, former vice-president and general manager of Powell River Company, is on a month's visit to the east to make a general survey of the newsprint situation and resume personal and business contacts.

RAYON

PATENT PROCESS FOR MAKING CELLULOSE ACETATE FROM WOOD PULP

According to the Abstracts and Bibliography Committee of TAPPI, British Celanese, Limited, have obtained British patent 438,643 on a method of purifying cellulose from wood, straw, grass, cotton linters and other raw materials for making cellulose acetate.

The purified cellulose is also suitable for use in the viscose process and for paper making. The raw material is treated with 0.5 to 10 percent nitric acid at between 95 degrees C and the boiling point, e.g., 100 degrees C, and then with an alkali solution. An alkali hypochlorite solution, e.g., a bleaching powder solution, may be used for the second stage. Silica may be removed by hydrofluoric acid before, during, or after the nitric acid treatment.

JAPAN

The U. S. Department of Commerce, Bureau of Foreign & Domestic Commerce, reports that rayon yarn production in Japan for the first eight months of this year totalled 165,100,000 pounds, or 29 per cent above the production for the same period in 1935. This probably makes Japan the world's largest producer of rayon yarn.

Exports of rayon yarn, while slightly above July, were 40 per cent below the previous high reach last April. Rayon cloth exports also improved over July, but were 15 per cent below the April peak.

U. S. LEADING SUPPLIER OF RAYON PULP TO JAPAN

Imports of "pulp for rayon making" for the second quarter of 1936 were reported as 88,003,200 pounds valued at 10,136,441 yen, of which 31,237,000 pounds (3,725,000 yen), came from Norway; 9,336,000 (1,040,000 yen) from Finland; 5,525,000 pounds (630,000 yen) from Sweden; 1,030,000 pounds (102,000 yen) from Czechoslovakia; 40,792,000 pounds (4,629,000 yen) from the United States; and 84,000 pounds (10,000 yen) from Canada. Comparable figures for the March quarter were not published. Imports of rayon yarn in the first six months of 1936 were only 5,516 pounds valued at 14,187 yen, chiefly from France and Switzerland. (Vice Consul Leslie Gordon Mayer, Kobe, and Trade Commissioner Paul P. Steintorf, Tokyo.)

GERMANY

Interest in Germany in the production of synthetic spinning fibers has quickened in recent years, on account of the difficulties surrounding the importation of raw materials, particularly cotton and wool. The shortage of foreign exchange has hastened the building of plants for the production of synthetic fibers which are to be used in admixture with or as substitutes for imported raw materials. The amount of staple fiber produced in 1935 showed an increase over that of the preceding year of 40 to 45 percent, while it is estimated that the total output for 1936 will approximate 40,000 metric tons (88,000,000 pounds)

as against 15,000 (33,000,000 pounds) in 1935.

The quality of the staple fiber produced is said to be improving. The Vistra Vereinigung, which includes 42 cotton spinning and weaving mills, reported that their production of "Vistra" (staple fiber mixed with cotton) yarns increased 47 percent in 1935; its mixed product, type 16/84, which is composed of one-sixth staple fiber and five-sixths cotton, has found a greatly increased demand, it is claimed.

New staple fiber enterprises, having a total yearly capacity of 42,000 to 45,000 metric tons (92,000,000 to 99,000,000 pounds) are expected to be ready for operation within six months. In view of its interest in promoting the production of staple fiber, the German government is understood to be assisting companies in expanding their existing plants or in erecting new plants, by guaranteeing up to a certain point, the obligations of these concerns incurred thereby. The control board for cotton yarn and tissues and for silk, rayon and staple fiber, through an order published in the "Deutscher Reichs- und Preussischer Staatsanzeiger" has decreed, beginning November 1, 1936, universally in Germany, the mixing of 16 percent of staple fiber in cotton knitted and netted underwear and hosiery. Exception is made for goods manufactured for direct or ultimate export as well as for glove materials and outerwear. Goods for these purposes may still, as before, be manufactured from pure cotton, according to the local press. In February, 1936, an order was issued which required the admixture of 8 percent staple fiber in spinning cotton yarn.

Exports of staple fiber from Germany in the first six months of 1936 totaled 726 metric tons (1,600,500 pounds), an increase of 463 metric tons over the export in the first half of 1935 (which was extraordinarily low) but 300 tons less than the high export figure in the first half of 1934. For the 12 months of 1935, exports of staple fiber were only 700 metric tons (1,543,200 pounds) against 1,540 tons (3,395,000 pounds) in 1934. In contrast, total imports of staple fiber rose from 7,600 metric tons in 1934 to 8,780 in 1935 (16,755,100 pounds to 19,356,600).

During the current year, imports of staple fiber were reduced to 3,000 metric tons (6,613,900 pounds), from 6,000 in the 1935 half year. During the first half of 1936, imports of staple fiber came mainly from Italy, which furnished 2,170 tons (4,784,000 pounds), followed by Belgium with 274 metric tons (604,100 pounds), and Switzerland with 226 metric tons (498,200 pounds), and Great Britain 187 tons (412,300 pounds).

The destination of exports of staple fiber in the first half of 1936 was as follows: Spain 228 metric tons (502,600 pounds), Czechoslovakia 96 tons (211,600 pounds), Hungary 88 (194,000), Switzerland 78 (172,000), United States 63 (138,900), and Rumania 57 (125,700 pounds).

The average value of exports of staple fiber declined from 2.32 reichsmarks per kilogram in the first half of 1935 to 1.66

reichsmarks in January-June, 1936, or from \$0.93 to \$0.66. The average price of imported staple fiber receded from 1.50 reichsmarks in the 1935 half year to 1.29 in the six months of 1936, or from \$0.60 to \$0.52. (Consul J. F. Huddleston, Dresden.)

UNITED KINGDOM

Production of rayon yarns, staple fiber, and rayon waste during the first six months of 1936 amounted to 72,200,000 pounds, compared with 61,300,000 in the corresponding 1935 period.

The United Kingdom output of staple fiber during the second quarter of 1936 is estimated at 6,715,000 pounds, against 4,885,000 in the first quarter and only 1,600,000 in the second quarter of 1935, according to the August 7 issue of Textile Mercury and Argus, published in Manchester, England.

CZECHOSLOVAKIA

Improved occupation in rayon consuming industries during the first half of 1936 resulted in a 33 percent gain in rayon consumption, as compared with consumption in the first half of 1935. Sales of domestic rayon increased 22 percent and imports were 34 percent higher.

Of the four rayon mills in Czechoslovakia, two operated at full capacity during the half year: The Boehmische Glanzstoff Fabrik (Lovisice n/Labem) reported a daily output of about 5,700 kilograms (of 2.2046 pounds), figured on a 125-denier basis; the Erste Boehmische Kunstseidefabrik (Terezin) produced 3,500 kilograms daily. The Kunstseide Spinnerei A. G., Senica nad Myavou—which has a daily capacity of 2,000 kilograms—turned out an average of 1,500 kilograms on a 125-denier basis. The new Bata rayon mill with a capacity of 800 to 900 kilograms is reported to have turned out from 400 to 500 kilograms daily.

Production of artificial wool will be started at the Bata plant this fall. An initial output of 1,000 kilograms per day is planned, according to an announcement made by a director of the Bata works at a meeting of the Textile Institute. The Bata company is reported to have bought the license for the German "Artilana" process for producing "wool-like staple fiber." (Assistant Trade Commissioner Jule B. Smith, Prague.)

SWITZERLAND

Rayon is produced in Switzerland chiefly by four plants, which use the viscose process. In addition, a very small plant at Rheinfelden uses the viscose process and another at Basel makes acetate fiber. No cuprammonium rayon is produced at present, the plant at Arbon having closed down. In 1935, the average daily production of rayon in Switzerland was estimated at 12,000 kilograms (26,455 pounds). Operating companies in the Swiss rayon industry have failed to pay any dividends on invested capital since 1932, but the holding companies have declared substantial dividends, according to local trade reports.

HALF OF SWEDISH 1937 PULP PRODUCTION ALREADY SOLD

In the Swedish Economic Review, compiled by the Swedish Board of Trade and published by the Swedish Foreign Office quarterly, it is stated that at the end of September more than half of the 1937 Swedish wood pulp production (all grades) had already been sold for delivery next year.

PULP IMPORTS

UP 32.6% IN FIRST EIGHT MONTHS

Imports of wood pulp continue at a level far above that of 1935. Imports of chemical pulp for the first eight months of 1936 totaled 1,314,157 short tons, compared with 998,156 short tons in the first eight months of 1935. The monthly average was 39,500 tons more than the average per month for the same period of 1935.

Ground wood imports for the first eight months of this year reached 133,922 short tons compared with 102,852 for the same period in 1935. The monthly average was 3,884 tons greater than in 1935.

The percentage increase in chemical pulp imports for the first eight months of 1936 over the identical period of 1935 was 32.6 per cent. For groundwood the increase was 30 per cent.

It will be recalled that imports of wood pulp, both chemical and mechanical for the entire year 1935 was 7 per cent greater than the imports during 1934. The total tonnage increase in 1935 imports over 1934 was 127,515 short tons.

While imports of chemical wood pulp for the month of August, 1936, did not quite equal the record imports of June, they were 63,003 tons greater than the chemical pulp imports during August, 1935, or 46.6 per cent greater. August, 1936, chemical pulp imports totaled 198,511 short tons, valued at \$7,384,204, while August, 1935, imports totaled 135,508 short tons valued at \$5,344,071. July 1936, chemical pulp imports were 185,218 short tons valued at \$7,039,547.

Eight months imports of wood pulp, all grades, in 1936 have reached 75 per cent of the total for the entire year 1935.

If the monthly averages hold up for the remaining four months of 1936, this year will attain an all time record for the importation of wood pulp.

Of the total of 79,814 short tons of unbleached sulphite of a value of \$2,660,619 imported into the United States during the month of August last, 48,841 tons worth \$1,614,330, or approximately 60 per cent of the quantity, came from Sweden. Finland supplied 13,840 tons of a value of \$482,919, Canada 7,983 tons of a value of \$261,333, Germany 2,448 tons of a value of \$79,907, Estonia 2,155 tons of a value of \$69,164, and Norway 2,077 tons of a value of \$77,812.

Canada with 23,758 short tons of a value of \$1,318,496 was the largest supplier of bleached sulphite, imports of which into the U. S. were 43,167 tons of a value of \$2,179,854. Imports from Norway amounted to 5,675 tons of a value of \$256,181; from Sweden, 5,568 tons of a value of \$242,925; from Germany, 2,861 tons of a value of \$125,964, and from Finland, 2,024 tons of a value of \$95,639.

Of the total of 67,111 short tons of unbleached sulphate or kraft pulp of a value of \$2,073,030 imported into the United States in August, Sweden supplied 50,864 tons of a value of \$1,529,872, or about 74 per cent of the total. Kraft pulp from Canada amounted to 7,850 tons of a value of \$272,136; from Finland, 6,924 tons of a value of \$229,067, and from Norway, 1,149 tons of a value of \$34,847.

Imports of wood pulp for August consisted of: Groundwood 17,723 tons, valued at \$318,719; Unbleached Sulphite 79,814 tons, valued at \$2,660,619; Bleached Sulphite 43,167 tons of a value of \$2,179,854; Unbleached Sulphate 67,111 tons, valued at \$2,073,030; Bleached Sulphate 7,454 tons of a value of \$424,432, and soda pulp amounting to 954 tons of a value of \$44,433.

U. S. FOREIGN TRADE IN PULP AND PAPER DURING AUGUST, 1936

Imports of paper base stocks into the United States continue at a high level. August imports in this line reached a total of \$9,901,044, an increase of 40 per cent over the total for August, 1935. Pulpwood receipts were 50 per cent and wood pulp receipts 45 per cent greater in volume than for the corresponding month last year; imports of rags were greater by 26 per cent; and those of other waste declined slightly. Imports of all classes of wood pulp during August were higher than last year, with the heaviest increases occurring in kraft and unbleached sulphite pulps, which were respectively 78 and 50 per cent in excess of August, 1935, receipts.

Imports of newsprint and other papers continue higher than for some years. August receipts of newsprint totaled 246,186 tons as against 195,052 during the corresponding month last year. Paper imports for the month reached a total valuation of \$9,966,096, of which \$8,697,144 represented newsprint and \$1,268,952 all other classes of paper and board. All of these figures represent an increase of about 28 per cent over the corresponding month in 1935.

Exports of paper and paper products from the United States during August dropped off to some extent compared with July but were 10 per cent in value above those for the corresponding month last year. Most classes contributed to this increase. A few of the larger items, notably uncoated book papers, boards and sheathing paper show decreases in volume ranging from 50 to 60 per cent. Among the less important items from the standpoint of volume of shipments, decreases were also registered in vulcanized fiber, cash register paper, cover paper and envelopes.

Exports of greaseproof and waterproof paper however increased 70 per cent, and those of other wrappings 95 per cent, compared with the corresponding month last year. Shipments of over-issue newspapers, which may also be classed as a wrapping paper, increased more than 130 per cent; even greater increases took place in shipments of tissue and surface-coated papers, which were 140 per cent and 155 per cent, respectively, higher than during August, 1935. Increases which occurred in shipments abroad of writing and newsprint papers, toilet papers, insulating and wallboards, bags, boxes and a few lesser items were not so outstanding but were nevertheless responsible for the rise in this year's total to \$1,889,695 as against \$1,716,568 for August, 1935.

Of increasing importance over the past few years are paper base stocks, which now approach in value our exports of paper. Shipments during August were valued at \$1,139,104, of which amount \$973,069 represented bleached and unbleached sulphite pulp and \$128,363 rags and other waste stock. The total for the corresponding month last year was \$986,154, of which \$828,648 represented shipments of sulphite pulp. No separation was made between bleached and unbleached pulp up to the beginning of this year. So far approximately three-fifths of these shipments have consisted of bleached pulp.

U. S. PULP EXPORTS GAIN IN SEVEN MONTHS

Exportations of wood pulp from the United States continue to score a gain as compared with last year. Latest figures issued by the U. S. Department of Commerce place exports in July last at 22,570 short tons of 2,000 pounds, air dry weight, valued at \$1,214,400, bringing the total for the first seven months of the current year up to 113,797 short tons of a declared value of \$6,052,624. The increase this year amounts to 21,380 tons, or 23.1 per cent, over the 92,417 short tons of a value of \$4,677,050 exported in the first seven months of 1935.

The great bulk of these exports comprise sulphite, shipments of which in the first seven months of the present year were 64,253 short tons of bleached sulphite of a value of \$4,347,751, and 46,467 short tons of unbleached sulphite, valued at \$1,537,529. Other exports in the seven-month period were 2,160 short tons of soda pulp of a value of \$123,646, and 917 tons of miscellaneous pulp of a value of \$43,698.

BROWN CONTRACTS LARGE RAYON PULP TONNAGE FOR JAPAN

In a letter to holders of the Brown Company first mortgage 5½ per cent bonds, the bondholders protective committee, of which Charles Francis Adams is chairman, reported that there had been some favorable developments in the position of the company. These include a contract for the sale of a largely increased tonnage of rayon pulp for export to Japan in 1927; arrangements with Commercial Credit Corporation to take over on favorable terms the loan on inventories originally made by the Federal Reserve Bank of Boston, and the purchase of the pulp output of the Port Royal Pulp and Paper Company, Ltd., at St. John, N. B.

The committee requested that bondholders who have not deposited their bonds do so promptly. More than \$9,000,000 of the bonds which represent somewhat less than half of the outstanding total, have already been deposited, according to the committee's report.

MEXICAN PAPER MARKET

The domestic paper industry has gradually returned to normal production with the resumption of operations in the San Rafael plant. Nevertheless, the government-controlled Productora e Importadora de Papel, S. A., continues to import large amounts of certain types of paper from the United States and Canada.—Commercial Attache Thomas Lockett, Mexico City.

FINLAND INCREASES PULP EXPORTS—KRAFT PULP UP 49 PER CENT

For the eight months, January through August of 1936, Finnish exports of wood pulp expanded materially over the 1935 totals for the same period.

Exports of sulphite pulp both bleached and unbleached were up 19.4 per cent from 397,490 tons to 474,752 tons.

Sulphate pulp exports increased 49 per cent from a total of 138,317 tons in the first eight months of 1935 to 206,256 tons in the same period of this year an increase of 67,939 tons.

Sulphite and sulphate pulp exports together totalled 681,008 tons in the first eight months of 1936 against 535,807 tons in the similar 1935 period, an increase of 27 percent.

England continues the largest customer for Finnish pulp mills with the United States in second place.

SWEDISH PULP AND PAPER EXPORTS FOR FIRST EIGHT MONTHS

Exports of wood pulp from Sweden for the first eight months of 1936, January through August inclusive, showed marked gains over the same period in 1935. Bleached sulphite pulp exports rose from 164,115 metric tons in the first eight months of 1935 to 193,851 metric tons, a gain of 18 per cent.

Unbleached sulphite pulp exports increased 16 per cent, rising from 413,291 metric tons to 480,217 metric tons.

Bleached sulphate exhibited the largest increase with 41 per cent, from 30,896 metric tons to 43,745.

Unbleached sulphate pulp exports rose from 384,263 metric tons to 454,027 or 18 per cent.

Exports of wet mechanical pulp increased from 318,306 metric tons in 1935 to 351,552 in 1936 or 10.3 per cent. Exports of dry mechanical pulp increased 27 per cent over the same period in 1935 with 29,422 metric tons in the first eight months of 1936 against 22,866 metric tons in the same period.

News Print Declined

Exports of news print from Sweden in the first eight months of this year declined 13.5 per cent, from 140,893 metric tons in the first eight months of 1935 to 121,170 tons in the same period of this year.

Sulphite wrapping papers also decreased in export shipment in 1936 as compared with 1935, the decrease being 3 per cent. 1935 exports were 71,762 metric tons against 69,308 tons for the same eight months period in 1936.

Kraft Wrapping Increases

The exportation of sulphate wrapping papers from Sweden in the first eight months of 1936 was 23.4 per cent greater than in the comparative period of 1935. Exports this year totalled 116,297 metric tons against 94,228 tons in 1935.

Exportation of greaseproof papers declined slightly in the eight months of 1936, 210 tons below the 1935 figure of 15,886 metric tons.

Cardboard exportation increased slightly with 37,483 metric tons or 34 tons more than the exportations for the first eight months of 1935.

JAPANESE PULP IMPORTS SHOW MARKED INCREASE DURING JULY

Pulp imports during July amounted to 65,742 pounds, or 35 per cent above those of June and over 100 per cent above those of the corresponding period

in 1935. This large increase is attributed primarily to the expansion of the staple fiber industry. Paper production for July amounted to 149,000,000 pounds, representing a decline of approximately 2 per cent in comparison with June. Sales of paper amounted to 140,000,000 pounds, which was a decline of approximately 5 per cent compared with June. (Trade Commissioner Paul Steintorf, Tokyo.)

INCREASE PRICE OF SWEDISH KRAFT PAPERS

The Swedish Wood Pulp Journal for September 30th reports on the Scandinavian kraft paper market as follows:

The ordinary meeting of the Scankraft Association was held at Stockholm on September 23. An immediate increase of the prices for all types of kraft paper was then decided upon for the following markets: Great Britain and the Irish Free State by 8s. 6d.; Holland, Belgium, France, Italy, Austria, Hungary, and Yugoslavia by 10s.; Germany by 5 Rmk; and Denmark by 10 D. kronor, all per ton. For the United States the price of unglazed kraft paper and sack paper has been raised by 10 cents per 100 lbs., while the prices of M. G. kraft paper are left unchanged.

The meeting also resolved that from Oct. 1st next the restrictions of output at present declared desirable need no longer be maintained.

Abundant orders for kraft paper have been received in the last two weeks, probably partly because the buyers have had an inkling of the coming increase. Most Scankraft mills are fully occupied for the next three or four months, and the situation can therefore be designated good in respect of orders in hand.

CUBAN IMPORTS OF CELLULOSE CHIEFLY FROM UNITED STATES

Preliminary figures on Cuban import trade in transparent cellulose sheeting, compiled from incoming ships' manifests, indicate that the importation of such material from the United States will this year substantially exceed the trade in such products for the year 1935 for the 8 months' period from January to August, 1936. Shipments from the United States total 35,277 kilograms (kilogram = 2.2046 pounds) for the first 8 months of 1936 compared with 41,083 for the whole year of 1935.

It is interesting to note that while in 1935 considerable quantities of transparent cellulose sheeting were imported from Japan, no shipments of this product have come into Cuba from that country so far this year. Imports of transparent cellulose sheeting from Germany for the first eight months of the current year are exceedingly small and amounted to only 1,320 kilograms. (Assistant Commercial Attache Charles H. Ducote, Havana).

CZECHOSLOVAK WOOD PULP AND PAPER INDUSTRY

For the month of July, a further increase was noted in the Czechoslovak production of paper. This increase exceeded the gains made during the preceding months as compared with those for the corresponding months of 1935. According to figures just released by the domestic paper cartel, which reports approximately 88 per cent of the total Czechoslovak production, the joint out-

put of the member factories totalled 16,920 metric tons (metric ton = 2,204.6 pounds) for July as compared with 16,310 for June and 14,080 for July, 1935. This increase over the production for the preceding month approximates 3.7 per cent and as compared with July last year, 20.2 per cent. For June the increase over the production for the corresponding month of last year amounted to 10.9 per cent. The totals given include the domestic production of newsprint which, in July, is estimated at 3,120 tons.

Imports of pulp, paper board and paper goods for July were valued at 6,408,000 crowns (U. S. currency = \$0.0414), as compared with 5,712,000 crowns and 6,692,000 crowns for July last year. In this, the total imports of paper pulp amounted to 460 tons as compared with 523 for June and 601 for July, 1935. These imports include 311 tons of bleached and 98 tons of unbleached sulphite pulp. Paper imports for July, which was included in the above totalled figures, amounted to 412 tons as compared with 413 for the corresponding period in 1935. Imports of paper board in July were somewhat higher as compared with the preceding month, totaling 113 tons. In value, however, they declined somewhat as compared with the June values.

July exports of pulp, paper board, and paper goods from Czechoslovakia were valued at 18,712,000 crowns as against 19,358,000 for the preceding month and 19,305,000 for July, 1935. With the exception of one ton of rag pulp, these exports of pulp were all of the sulphite type. They consisted of 4,609 tons of bleached and 2,945 tons of unbleached pulp. The United States was the principal market for sulphite pulp exports. The only other important country of destination was Germany. Exports of paper for July amounted to 3,037 tons, valued at 6,455,000 crowns. Approximately 52 per cent of these exports was of wrapping paper. The most important shipments were made to the transit port of Trieste, British India, and Great Britain. Exports of newsprint, which had increased in June and likewise during the second quarter of the current year, showed a slight decline in July.

Domestic sales of sulphite pulp increased considerably during recent months. For the first seven months of the year, the gain as compared with the corresponding period of 1935 is estimated at 15 to 18 per cent. July sales of "graphic" paper, which includes all writing and printing paper other than news print, exceeded the June sales by 3 per cent and the July sales of last year by 5 per cent. Sales of wrapping paper were slightly under the volume of June, and showed a gain of 14.1 per cent over the domestic sales of July. An increase of 3.6 per cent was indicated for the July sales of news print as against the June sales and 11.1 per cent against the sales of July of last year. (Consulate General, Prague.)

MERRICK MAN VISITS COAST

T. F. Corpron, Chicago district representative of the Merrick Scale Manufacturing Company of Passaic, New Jersey, makers of the Weightometer, visited the Pacific Coast early in October, and called on a number of the pulp and paper mills accompanied by Mr. Irving R. Gard, Pacific Northwest Merrick representative.

THE NEWSPRINT MARKET

Market for newsprint has improved to such an extent that Pacific Coast newsprint mills are avoiding contracts wherever possible and making no move to obtain new business. They feel that they already have all the orders they can handle from their regular customers and that new business would only embarrass them. The mills are operating at 100 percent capacity, but prices are still too low to warrant extension of production facilities at this time.

The basic rate is still \$42.50 a ton on contract, but the mills are expecting the development of a good spot market for newsprint within four or five months—for the first time in years, and when that comes prices will automatically rise. It is a seller's market today—a direct reversal of conditions of the past five or six years.

Export prices have risen sharply, and in some cases the advance has been as high as \$8 a ton, sufficient to make the export price higher in some instances than the domestic quotation.

CANADIAN NEWSPRINT

Canada's newsprint industry is gradually returning to more stable conditions, even though few of the eastern mills will show a profit on the year's operations, even with paper at the higher price of \$42.50 a ton.

The past month brought two constructive developments—announcement of a plan of capital reorganization for Lake St. John Power & Paper Company, and a scheme of arrangement which will enable Consolidated Paper Corporation to pay interest on its funded debt for the next three years, and possibly five years, in stock rather than in cash.

These two developments will leave Price Brothers and Abitibi, both in bankruptcy, as the only two sore spots in the newsprint field. The lifting of the Price Brothers receivership appears closer at this time than for some years. Plans have been formulated, it is understood on good authority, for the redemption of the present outstanding bonds, almost entirely held by Pacona, Ltd.—a subsidiary of Aluminum Company and Saguenay Power interests—and a subsequent reorganization of the capital structure and rehabilitation of the financial condition of the company.

London financial interests that have been interested right along in the Price Brothers situation have representatives on the way out to Canada, and it is believed in financial circles that this presages early action on the submission of the new plan.

The protective committee for Abitibi bondholders has been working on a reorganization plan for a considerable time, and the Ontario government has expressed a wish that the receivership should be lifted from this company as soon as possible. Indications are that by next spring receiverships and defaults in the newsprint field will be a thing of the past.

Meanwhile consumption of newsprint and consequently production from Canadian mills, continues to establish new peaks. Eastern mills are operating at 80 percent capacity compared with 72 percent last year and 50 percent in 1932. On this coast, Powell River Company and Pacific Mills, Ltd., continue at 100 percent capacity, the same figure they have been working on for a good many months.

LABOR PROTESTS TRADE AGREEMENTS

The Wisconsin State Federation of Labor at its annual convention adopted a strong resolution pointing out the damage that has been done to the Wisconsin Kraft Paper Industry by the Reciprocal Trade Agreements, asking enforcement of the Anti-Dumping Act and sending copies of the resolutions to the President and to Wisconsin's Senators and Congressmen.

Another official report shows that the reciprocal trade agreements are proving more beneficial to foreign nations than to the United States. The latest such report is from the Canadian government, and it shows that in the year just closed Canada's sales to the United States increased \$52,000,000 and the sales by the United States increased only \$33,000,000. The increase was despite the fact that the Canadian trade agreement was in effect only half of the year. Increases in Canadian exports included \$7,000,000 in wheat, \$4,000,000 in liquor, a million each in wool and swine, and \$2,000,000 in fish, all of which were affected by the trade agreement.

The state department has announced that an effort will be made to conclude a dozen or more additional agreements before the expiration of the act next year.

BERK BANNAN'S BABY

Berk Bannan of the Western Gear Works of Seattle was passing cigars around November 4th in honor of Tom Anthony Bannan, 6 pounds 9½ ounces, who arrived that morning. Mrs. Bannan and the baby are doing well.

**The Pacific Coast Division
of the
American Pulp & Paper Mill Superintendents
Association**

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PULP MILLS IN BRAZIL

No chemical wood pulp is produced in Brazil, the total requirements of the important domestic paper industry being supplied exclusively through importation. The largest amount during 1935 was supplied by Germany and several of the Scandinavian countries. There is a possibility that one large capacity chemical wood pulp mill may come into operation before the close of 1937 and that the construction of a smaller mill will be started by that time. It is estimated that approximately \$500,000 will be expended on this projected mill for machinery. Another mill for the utilization of waste material is being considered by an American group. Pulp for the manufacture of paper is confined to 3 mills, 2 of which produce rice straw pulp and the other pulp from the swamp lily. The former two produce approximately 2,400 to 3,000 metric tons annually and the latter has an output of around 600 metric tons yearly, which pulp is used in the manufacture of low grade wrapping paper. The only mill capable of producing mechanical pulp suspended operations in 1919. (Trade Commissioner J. Winsor Ives, Rio de Janeiro).

TOLERANCE FOR PERFORATION OF PAPER PULP CONTINUED INDEFINITELY—BRAZIL

A circular (No. 28) dated August 1, issued by the Brazilian Ministry of Finance, extends indefinitely the provisions of Treasury Circulars No. 9 of September 1 and No. 124 of November 30, 1934, which liberalize the requirements of Note 231 of Brazilian tariff item 945 providing for the perforation of paper pulp imported for the manufacture of paper, according to the *Diario Oficial*, August 4, Rio de Janeiro.

(The last previous extension of the above provisions was for the 180-day period from February 4 to August 3, 1936; see Commerce Reports of March 7, 1936, for an announcement of the last extension of these provisions).

PERUVIAN PAPER FACTORY BEGINS OPERATIONS

A new paper mill began operations September 26, 1936. This plant, located on the Rimac River at Chosica, is preparing to produce semi-kraft paper from old jute and later will make white paper. Wrapping paper, writing paper, cardboard, cover paper, bags and paper boxes are among the items to be produced eventually. Until March, 1937, the mill will experiment with banana fiber obtained locally.

The average capacity of the plant is estimated at 8 metric tons (metric ton equals 2,204.6 pounds) per 24-hour day and the maximum capacity at 14 tons.

While the present installation includes a bleaching plant, it lacks chemical recovery equipment. All machine units are second hand and of German origin, including the hydro-electric power plant. German technicians are said to have arrived from Germany recently to superintend production. Cost of the plant has been variously estimated between \$300,000 and \$800,000. At present the factory is reported to be working 12 hours daily with the expectation of working 24 hours daily in the near future.

Raw Materials Will Be Imported

Everything required for manufacturing the above mentioned products will be imported. Lima distributors, including representatives of American exporters, have

been asked to quote on: Bleached and unbleached mechanical pulp, sulphite and kraft pulp, sulphate of alumina 17-18 per cent, felts, lime, caustic soda and chlorine.

The factory's requirements will necessarily be imported through Callao and be delivered to Chosica by rail or truck.

Total Peruvian imports of paper during the calendar year 1935 amounted to 13,079 metric tons valued at a little over 5,000,000 soles. After newsprint, which accounted for almost 60 per cent of total imports, come wrapping paper, book and low price bond paper. The United States in 1935 supplied 3 per cent of total imports.

While there are several small paper manufacturers in Peru the new factory will be the most important to date.—Assistant Commercial Attache A. Cyril Crilley, Lima.

ITALIAN PAPER CONSUMPTION

An article published in the official organ of the Paper Manufacturers' Federation calls attention to the difficulties created in the paper, printing and allied industries by the effects of the propaganda for a drastic reduction of Italian paper consumption carried out so enthusiastically last winter. The writer of the article points out that Italian paper consumption is normally low for a country of Italy's general standard of living, the annual per capita consumption being about one-seventh of the per capita consumption in the United States, and while it is recognized that during the national emergency of the past year, there was need to cut to the minimum of necessity the use of all commodities which involved the importation of raw materials from abroad, that exigency has now passed and a return to more normal conditions should be promoted.

The campaign to avoid waste of paper and to restrict its consumption led to a reduction in the number of pages of the newspapers and periodicals, to the elimination of government publications judged superfluous and to a change in the format in others, to the substitution of slates for scratch papers in the schools, to the utilization of waste paper for remanufacture and to numerous other schemes for saving paper.

The idea took such firm hold on the imagination of the consuming public that the paper industry complains that now when the need to reduce paper consumption no longer exists, the return to a normal market demand is delayed. Consequently, not only the paper industry itself has idle machines and full warehouses but such allied industries as the printing and publishing businesses are also adversely affected, while perhaps the worst sufferers are the wholesale and retail paper merchants. This condition increases unemployment and induces a feeling of depression in the industry. It is argued that the industry has made great progress in reducing its dependency on imported materials in such items as kalin, felts, machinery, etc., and particularly, in the use of chemical pulp, a greater utilization having been made of ground wood and pulp manufactured from rags, waste paper, etc.

The manufacturers' organ contends that a normal consumption of paper should now be encouraged by the authorities and states that even on the present reduced import quota, the Italian paper industry is able to satisfy the usual national consumption. (Trade Commissioner Elizabeth Humes, Rome.)

NEW TYPE OF ENVELOPE DESIGNED IN GERMANY

A new type of envelope described as being of a chain design has been invented in Germany and is now being manufactured in Berlin. It is patented in Germany, United Kingdom and the United States. Many advantages are claimed for the chain type of envelope in office and business use. It is recommended as a time and labor saver for use with addressing machines or for the preparation of a series of envelopes for follow up advertising, etc. By using carbon paper, a second series of addressed envelopes can be prepared at the same time. For ordinary use chains of 5 or 10 envelopes are recommended for addressing, either by hand or by typewriter. The machine which manufactures the chain envelope costs 8,000 reichmarks (the reichmark in U. S. currency=\$0.403), and the American rights are for sale at approximately \$2,000. (Trade Commissioner R. M. Stephenson, Berlin.)

FOREST SERVICE SUMMARY SHOWS FIRE DAMAGE

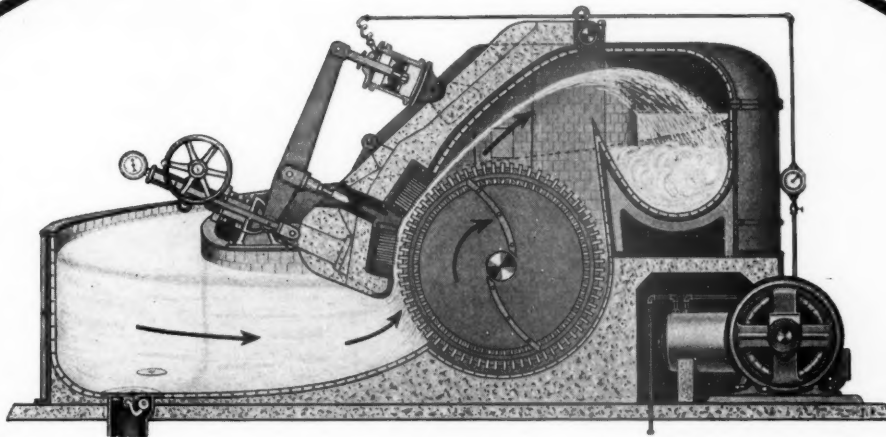
Recent fire damage to national forest land and other land protected by the forest service is shown by cold figures of the fire summary for the period ending October 10. Heavy losses resulting from recent western Oregon blazes as compared with earlier season losses is indicated.

The summary shows that since September 20, 3,345 acres have been burned inside national forest boundaries in Oregon and Washington, and 14,024 acres adjacent to these boundaries on land protected by the forest service. Chief sufferer from fires has been the Siskiyou national forest, largely in Curry and Coos counties, Oregon, with 2,622 acres burned inside and 8,473 acres outside its boundaries. Next in order the Siuslaw national forest also located along the Oregon Coast Range shows a loss of 510 acres inside and 2,631 acres of protected land adjacent to forest boundaries. Mt. Hood national forest ranks third with a loss of 2,600 acres of protected land outside its boundaries. Smaller losers have been the Willamette, Walla, Umpqua, Malheur and Fremont national forests in Oregon, and the Colville national forest in Washington. In the past twenty days the Siskiyou forest has had seven fires exceeding ten acres, the Siuslaw 6, the Mt. Hood 2, and the Colville 2. Up to September 20, only 29 fires in excess of 10 acres had occurred on the entire 20 forests of the two states for 1936.

Of 17 fires for the twenty day period in the Siskiyou national forest 8 were attributed to incendiaries and 7 to careless smokers. Of 24 fires reported by the Siuslaw forest, along the northern Oregon Coast Range, careless smokers are charged with 17, slash burning with 4, and careless campers with 2.

Outstanding among national forest fires in southwestern Oregon was the Pistol River fire in Curry county with a total area burned of 8,000 acres; the Euchre creek fire with 2,560 acres burned. Poverty Ridge and other fires burned an additional 1000 acres in this southwestern Oregon district, while Sand Lake, Alsea, Beaver Creek, Three Mile Lake, Deadwood Creek, with losses of 1,100 acres and less were principal fires in the Siuslaw Coast Range area.

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88% of power for direct hydration,
only 12% for circulation.

Positive hydration at desired consistency, up to 8%.

Shorter beating cycle. Handles all stocks.

Combines beating and Jordaning in one operation.

One THORSEN-HÉRY with 125 H. P. motor replaces three 300 H. P. Jordans.

Positive control of bed plate to roll allows development of stock to greatest strength and desired freeness.

Built for belt, texrope, or direct motor drive.

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Over 200 **POIRIER**

WEIGHT GOVERNORS
in successful operation

Trial . . . proof . . . purchase . . . that's how almost 200 mills have installed Poirier Weight Governors. And many mills are 100% equipped. The POIRIER is the most efficient device for automatically controlling volume of stock at stuff box, for Fourdrinier and Board machines.

Operates equally well on light or heavy stock, on changed filler content or freeness. Corrects faulty chest agitation.



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Pacific Coast Representative: A. H. LUNDBERG, 3311 First Ave. So., Seattle, Wash. Canadian Representative: J. S. BABBITT, University Tower Building, Montreal, Quebec, Canada. London: Paper and Industrial Appliances, Ltd.

BRITISH PAPER PRODUCTION DURING SECOND QUARTER UPWARD

The trend of British paper production for all classes of paper was steadily upward during the second quarter of the year. During July and August of the third quarter, however, most mills experienced the usual summer lull and production for this quarter is likely to be considerably less than during the second quarter.

The trend of prices on most grades of paper has also been somewhat higher, and can be at least described as steady. The price for British news print has been fixed at £10 (U. S. currency=\$4.88 per pound) per ton for 1937 and 1938. This is the same price which has been obtained for 1936 and there seems to be no likelihood of any chance in news print prices before the end of 1938. The prices of greaseproof and kraft paper are tending to rise.

British Pulp and Paper Imports and Exports for Second Quarter

Continued activity in paper manufacture is reflected in the large imports of paper-making pulp, which occurred during the second quarter of 1936. These imports, amounting to 633,590 tons, were not only 11 per cent greater than during the corresponding three months of 1935, but showed a large increase over the first quarter of the current year. All classes of paper-making pulp contributed to the increase, with the sole exception of dry mechanical pulp, which showed a decline from 1,484 to 741 tons. Finland continued to be main source of supply during the six months period, having contributed approximately 50 per cent of all the pulp imported into the United Kingdom.

Imports of paper, amounting to 3,306,340 hundredweight, also showed some expansion during the second quarter of the year, this being an increase of approximately 16 per cent over the imports during the second quarter of 1935.

Exports of paper from the United Kingdom during the second quarter of 1936 were 926,795 hundredweight, which were slightly higher than those for the corresponding period of 1935. In value, however, the 1936 figure was slightly less than that for the same quarter of the previous year. The British Dominions were the principal customers, accounting for about 80 per cent of the exports, with Australia being the largest purchaser. South Africa, Irish Free State, and British Isles were also important customers.

Standardization of Paper Sizes Proposed

Provisional agreement has been made between the British Federation of Master Printers, the National Association of Paper Merchants and H. M. Stationery Office, looking toward the adoption of standard sizes for various grades of writing paper, printing paper, boards, wrappings and casings. The British Standards Institution is now considering the proposals and has submitted drafts to the Dominions.

New Vegetable Parchment Mill Starts Production in Cardiff

The new vegetable parchment mill constructed by Thomas Owen and Co., Limited, at the Ely Paper Mills, Cardiff, Wales, has now been completed and production has begun. The manufacture of vegetable parchment is a relatively new

industry for British paper mills and up until very recently almost all of this product was of foreign origin. The parchment machine in this new plant was supplied by a German firm and with the paper-making machines, the combined length approximates 470 feet. It will produce a sheet of 132 inches in width. The initial output of the plant is placed at 100 tons per week. A model filtration plant capable of handling 5,000,000 gallons of water daily has been installed.

New Coated Paper Factory Plant at Cardiff

It is reported that a new coated paper factory is to be built on the site adjacent to the new vegetable parchment mill just opened at Cardiff. The new factory will be running, it is understood, by the end of the current year and will coat up to 200 tons of paper per week. It is estimated that when fully running, it will give employment to 1000 people.

New Cellulose Film Factory Announced at Leyton

A new factory is being built at Leyton for the purpose of manufacturing cellulose films and transparencies adhering to paper, millboard, fabric, etc. This is the factory for which a new company styled "British Cellulose Ltd." was formed last February. Three machines have already been ordered and it is expected that production will begin before the end of the current year. It is said that the plans of the company allow for the ultimate installation of 20 machines.

Two Additional Kraft Machines Being Installed

The first of two additional machines for the production of lightweight kraft papers has recently been put into production at the Aylesford Paper Mills of Albert E. Reed Ltd. The installation of the second, which will be the eighth machine in the mill, is nearly completed, and it is planned to use it for the manufacture of M. G. sulphite and M. G. kraft papers. It is said that this machine will be the largest M. G. cylinder in the world.—(Assistant Commercial Attache James Somerville, Jr., London.)

GERMANS CONTINUE TO DOMINATE CHINA'S PAPER MARKET

The Shanghai paper market continued to show little change during the month of August. German news print manufacturers are supplying bulk of shipments of this class of paper. Orders amounting to 16,000 tons are reported to have been placed for September-December delivery. As Shanghai's monthly consumption is estimated at 5,000 tons, there is little prospect for imports from other countries during the remainder of 1936. German mills are reported to be accepting orders at £7 17s. 6d. per ton, c.i.f. Shanghai, for 1937 shipments. Austrian mills are quoting the same price and Canadian mills are quoting £8 7s. 6d. for October shipments. They are reported to be doing very little business. Scandinavian news print mills are reported as being fully booked for several months ahead, and are practically out of the market, owing to this fact and also to higher prices quoted. It is estimated that total sales of news print to this market during August exceeded 5,000 tons.

The market for kraft paper continues good. European exporters representa-

tives are reported to be defying convention prices quoted on kraft and also on M.G. cap papers. Japanese cap has again appeared on the market. (Commercial Attache Julian Arnold, Shanghai.)

Activity in Shanghai Paper Market Below Level of Last Year

Imports of paper and wood pulp into Shanghai during the first six months of the current year was about 20 per cent below the total for the corresponding period in 1935, according to a recent report from Trade Commissioner C. E. Christopherson. Slight increases were reported in some of the finer papers and paper specialties, but these were insufficient to offset declines in such important lines as news print, glazed paper, M. G. cap, simile, tissue and printing papers.

Imports of news print during the first half amounted to 47,100 metric tons, a decrease of 26 per cent compared with the corresponding period last year. In this connection, it is of interest to note that Germany moved from sixth place to first place as a supplier of this class of paper. Canada dropping from first to second, and the United States from third to sixth. Germany's rapid advance in this market (44 per cent of this year's news print imports came from that country) has been due to its nationals ability to underquote other countries because of export compensation.

The demand for kraft paper was slack during the early months of 1936 but improved during the second quarter. Imports during the first six months of the current year, amounting to 3,892 metric tons, are about 20 per cent under those for the corresponding six months in 1935. Sweden, Canada, and Austria together supplied about three-fourths of this year's importations.

Drawing, document, banknote, and bond papers continue in good demand, with the United States supplying between 85 and 90 percent of the total receipts. Introduction of a domestically manufactured glazed paper on the Shanghai market last winter has caused an excess supply with a consequent lowering in prices and also importations. High priced, good quality papers which were formerly in general use for advertising pamphlets and similar uses are now seldom called for, inasmuch as cheaper grades of paper are now in general use. Printers and paper dealers are reported to still have on hand stocks of good quality paper purchased some two years ago.

ELWELL-PARKER ISSUES NEW BULLETINS

The Elwell-Parker Electric Company, Cleveland, is mailing copies of a bulletin describing its Type "EQ" low lift platform trucks.

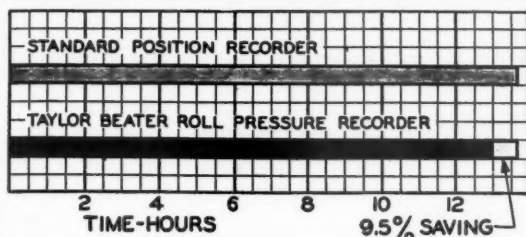
These machines have a capacity of 3000 lbs., and are the smallest trucks in the industry capable of handling skids of the same size and capacity formerly used with hand lift trucks.

The principal units of its construction are standardized with other Elwell-Parker trucks, tractors and cranes, providing interchangeability and eliminating the need for Elwell-Parker fleet owners to carry large stocks of spare parts. Three pages of this bulletin are devoted to Type "EQ", while the last features the Company's general line of Trucks, Tractors and Cranes. A postcard request to the Company will bring a copy by early mail.

SAVE

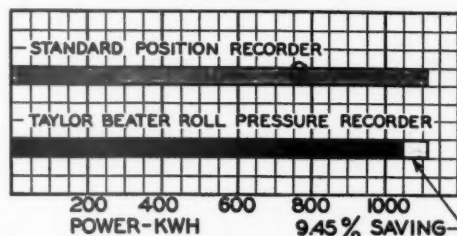
ON BEATING TIME AND
POWER CONSUMPTION

9 1/2%



The Taylor Pressure Recorder shows a 9 1/2% saving in beating time. This chart compares the beating time of 35 cycles with the roll adjusted according to a standard roll-position recorder—and the beating time of 35 cycles adjusted the Taylor way. This provides increased beating capacity without more equipment.

A saving of 9.45% in power consumption shown by use of Taylor Pressure Recorder. Again the comparison between 35 beating cycles with the roll adjusted the old and new ways. With the Taylor Recorder the operator avoids excessive roll pressure. Both charts show results of actual test operations in a mill.



Eliminate expensive variables in processing by keeping uniform schedule of time and pressure with aid of Taylor Beater Roll Pressure Recorder

HOW can you get a true measure of the pressure applied to stock by the beater roll? How can you avoid variations in pressures that cause variations in stock processing, beating time and the quality of the finished sheet?

Taylor Engineers today can answer these questions for you with the Taylor Beater Roll Pressure Recorder. After two years of service in mills in the United States and Canada, this Recorder has proved an aid in making finer paper.

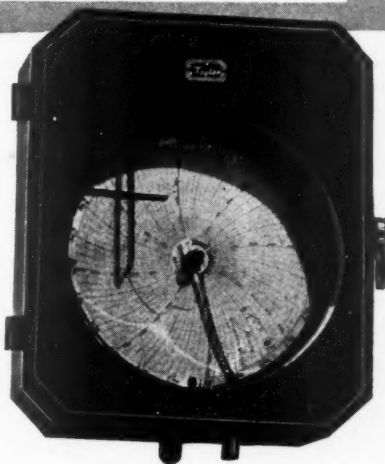
It enables the beaterman to maintain the definite pressure-time schedule best suited to each quality of pulp and each grade of paper. It successfully reduces beating time and increases a mill's beating capacity without the addition of new beating equipment. It cuts power costs and saves money by eliminating excessive roll pressures. It enables the beaterman to maintain uniform roll pressure, regardless of variations in consistency.

The two charts show you a saving of

9 1/2% on beating time and power consumption. Reduction of beating time after the installation of a Taylor Recorder has been as high as 12% in some mills. The lower power costs alone soon pay for the instrument.

Let us work with you in producing these economies in your mill and in assuring the high quality of the finished sheet. Ask for Bulletin 98104. Get in touch with a Taylor Representative, or write to Taylor Instrument Companies, Rochester, N. Y., or Toronto, Canada. Manufacturers in Great Britain—Short & Mason, Ltd., London, Eng.

Pacific Coast Sales Offices—145 Mission St., San Francisco, Cal., and Central Bldg., Los Angeles. Also, Terminal Sales Bldg., Portland, Oregon. Complete repair facilities for all Taylor Instruments are available in San Francisco. For your own protection let adjustments or repairs to your Taylor instruments be made by Taylor.



Here is the Taylor Beater Roll Pressure Recorder, another development which ranks with Taylor Grinder Temperature Control, the Taylor Press-Roll Load Recorder and the Taylor Digester Control in helping mills produce fine paper at lower cost.

Taylor

Indicating / Recording • Controlling

TEMPERATURE, PRESSURE and
FLOW INSTRUMENTS

ANDERSON TELLS OF INDUSTRY'S VALUE

Ossian Anderson, executive vice-president of the St. Regis Kraft Company, in a talk before the Tacoma Chamber of Commerce early in October gave definite figures showing clearly what the reopening of the St. Regis mill will mean to the citizens of Tacoma through increased payrolls.

The rebuilt and modernized mill will require about 20,000 man-months of labor per year, Mr. Anderson said. Some \$500,000 in chemicals will be used. Use of City of Tacoma water and power will total close to \$175,000 per year, and another \$100,000 will go for general supply materials.

Shipping costs will be about \$560,000 greater on pulp than on lumber made from the same logs. Hugged fuel and oil will cost about \$75,000.

The value of the St. Regis plant's output will approximate \$3,000,000 annually on the basis of 60,000,000 feet of logs used per year. The same logs turned into lumber would have a value of but \$700,000 on the present market.

During his talk Mr. Anderson stated that, "with respect to the future of the pulp industry, I think I do not exaggerate when I say it will have eventually a larger payroll than the lumber industry. It will take 20,000,000 tons of pulp to supply the demand and will use more stumpage than lumber production. To build up to the capacity demand of the United States 200,000 men will be employed."

Mr. Anderson pointed out that the Puget Sound area was especially favored for the production of pulp, "You are most fortunate in having all the raw materials for making pulp in this state. You have more soft wood for pulp than any other country outside of Russia. The pulp industry uses the lower grade timber. It can use the waste of the forests."

LEDGER POINTS POSSIBILITIES

The Tacoma Daily Ledger in an article on the pulp industry says in part:

"If we could in this country build up the pulp and paper industry to supply our own needs as a nation we would first create work directly and indirectly for approximately 250,000 men. It would require engineering, machinery and construction labor to build our plant capacity up to our present requirement, which, in terms of dollars would represent approximately \$425,000,000 for plant or capital goods industries. These plants would require of our surplus electrical energy 795,000 kilowatts generating capacity, or roughly one billion horsepower constant load. We would consume and create a market for timber and forest waste equivalent to 5,000,000,000 feet of wood stumpage now being imported.

"All these things could be done by private capital if we would give fair consideration to protect the industry on a basis of a scientific study of the difference in rates paid foreign labor to that of American labor. With this differential assured as a protection, the industry would rapidly rebuild itself to take care of our consumption, create these enormous economic benefits and make ourselves more conscious of our heritage in forest lands, which cannot be preserved and made productive for further use except through proper utilization. A tree is like any other crop of the soil—it must be harvested when matured to permit the growth of future healthy crops."

CANADIAN-GERMAN TREATY EXPECTED TO BOOST TRADE

Woodpulp producers of British Columbia regard the newly negotiated trade agreement between Canada and Germany as a potential creator of new business that may reach important proportions during the next few months.

Under the terms of the agreement the "funny money" clauses which in the past have severely interfered with trade with Germany have been eliminated in respect to Canada. The old form of barter is out, and German exchange control has been abandoned, too. Under the former conditions, it was necessary for most Canadian exporters to deal through a third party, as Germany did not pay direct for her purchases in foreign countries. For instance, if a pulp mill in British Columbia sold to German account it did not receive payment from Germany, but from some Canadian concern in, say, Toronto that happened to be an importer of German goods. The difference was arranged by negotiation through the banks—often a tedious operation. The situation was not such as to encourage trading, and B. C. Pulp & Paper Company officials say that on three occasions orders from Germany, which had seemed promising at first, had to be turned down because of the red tape and international complications that had to be untangled.

Importation of woodpulp from Canada has been restricted to a maximum of one percent of the total of Canadian shipments, but this may be only a temporary basis. Under the order signed by Hon. W. D. Euler, Canadian minister of trade and commerce, and Dr. Hans Hemmen, representing the Nazi government, Germany will buy Canadian pulp up to the value of \$100,000 the first year of the treaty's operation.

The trade agreement is to remain in force for one year or thereafter until either government gives two months' notice of termination. It is called a provisional trade agreement and one of its clauses states it is the intention of the two governments to replace it with a general convention of commerce and navigation as soon as possible. Among the other British Columbia products affected are lumber, salmon, copper and fresh apples.

URGE FORESTRY PROGRAM FOR BRITISH COLUMBIA

Appointment of a royal commission representing the forestry, milling, pulp and paper manufacturing and secondary timber industries to make a thorough-going inquiry into the forest problems of British Columbia and plan a program for the economic utilization of the province's timber resources, with special reference to the pulp and paper industries, was urged in the legislature at Victoria by Ernest Bakewell, former chemist at Pacific Mills, Ltd., Ocean Falls, and now a member of the legislative assembly.

Mr. Bakewell urged that a commission such as he had proposed should make a tour of countries that had followed an enlightened forest policy, such as Sweden, with a view to putting into effect similar ideas in British Columbia.

Mr. Bakewell claims that production of lumber and plywood has proceeded at such a pace in recent years that it has left planning and reforestation far behind. While it is cheerful to report production records constantly being broken,

Mr. Bakewell warned the legislature that of the fifty to sixty thousand acres of timberland denuded annually by the timber-using industries, forty thousand acres would remain unproductive unless practical steps were taken to ensure a sustained yield. A sound policy of conservation had been urged by a commission in British Columbia as long ago as 1910, but little had been done. Three quarters of a million acres of denuded timberland in British Columbia was not being re-stocked. Such a situation, he believed, would be avoided if a permanent, non-political board were appointed to regulate forest operations and deal with each case on its individual merits.

Mr. Bakewell pointed out that sawmills, due to lack of planning, were situated chiefly in the lower mainland area of British Columbia, far removed from woods operations and in locations unsuited for erection of plants to produce cellulose products. He believed that the Olympic peninsula provided an object lesson for British Columbia. There, he pointed out, a lumber mill and a pulp mill were located side by side. They were not erected together. The large sawmill was already established when a bleached sulphite pulp mill was built nearby. The two plants were independently owned and operated, but hemlock waste in the sawmill was used for wood chips and hog fuel in the pulp mill. One overhead conveyor carried wood chips to the digesters, another conveyed hog fuel to a high-pressure steam plant, the steam for power used in both plants. From that sawmill waste, he pointed out, bleached sulphite pulp for rayon was shipped into the highly competitive Oriental market where it was able to hold its place easily as regards price and quality.

"This could be duplicated many times in British Columbia," said Mr. Bakewell. "Why should wood chips from Englewood at the north end of Vancouver Island and Port Alberni on the west coast be shipped to mills in Washington state?"

More intelligent use of the province's raw forest material was urged by Mr. Bakewell. Rationalization and co-ordination were needed, he said.

LIMITED USE OF PAPER MILK BOTTLES IN GERMANY

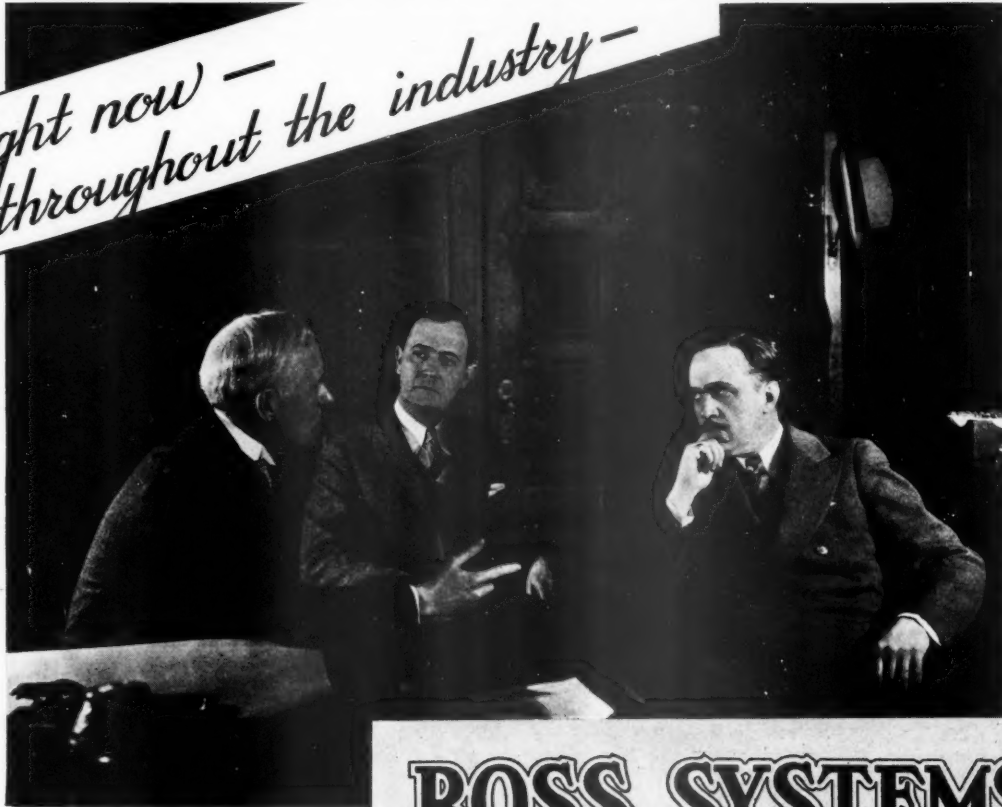
Attempts to introduce paper milk containers in Germany have been without success so far. It is the universal custom to make a charge for glass milk bottles, which is refunded when the bottles are returned, and it is claimed this practice has proven more economical than paper containers. Paper milk bottles are used to some extent at sport events, fairs, railway stations, etc., where the return of glass bottles would be inconvenient and where the small increase in the price of milk is of no concern.

While the use of paper bottles for milk is limited, they are widely employed for other purposes. Jam, honey, syrup and similar foods are commonly sold in paper containers. Considerable experimentation is being carried out for the development of new forms by companies manufacturing paper containers and it seems likely that the use of paper milk bottles will expand. (Trade Commissioner R. M. Stephenson, Berlin).

ED. SMITH IN SAN FRANCISCO

Ed. N. Smith, Los Angeles paper mill representative, was a San Francisco visitor late in October.

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of those who sell paper in the western states

+ + + +

EVERETT ISSUES INSTRUCTIVE BROADSIDE

The Everett Pulp & Paper Company of Everett, Washington, has just mailed a very attractive broadside printed on the company's Nautilus M.F. book paper, and entitled "One Alert Printing Salesman Does This—"

The broadside shows a printing salesman exhibiting the back of a halftone plate to a prospect and saying, "Mr. Brown, there certainly is an art to making-ready a printing job. For instance, here is a proof of this plate with the makeready carelessly made—and here is a proof from the same plate with careful makeready. We pride ourselves in our shop on the care we take in this important step in the production of good printing."

Everett gives the reasons for the salesman showing the plate and proofs to the prospect as follows:

"Because he believes pictures speak louder than words—and because a three dimension 'picture' speaks louder than two—one successful printing salesman we know does this:

"He frequently shows his prospects and clients actual samples of materials and equipment used in a printing job. For instance, on one call he might carry with him an engraving with the makeready pasted on the back. Not only is this exhibit interesting news for many a buyer of printing, arresting his attention, but it serves as a theme around which to build an effective sales talk.

"On another trip he takes along a deep and shallow etched halftone, with gauge, or samples of ink, or sheets of eggshell showing proper and improper ink lay and squeeze, or a small chase with which to describe proper lockup, etc.

"Thus the salesman is not only a source of interesting information to the buyer; he also convinces his prospect that his house uses extra care at every step of the printing job.

"His 'Pictures' make his sales talk more vivid, and the selling points which he emphasizes remain much longer in the buyer's mind."

The broadside ends by saying that "Another Way to Interest a Buyer of Printing—is to show him a halftone reproduction on the new blue-white book paper—Everett Nautilus M.F. While it is an inexpensive sheet its texture is so even, its surfaces so smooth, halftones print upon it with a surprising sharpness and fidelity, capturing full value from the engravings.

"Where a booklet . . . insert . . . broadside or publication run is long, the economy in the paper a necessary factor, it is good to know about the halftone printing excellence of Everett Nautilus M.F., the ideal inexpensive book paper for halftones."

Mr. J. L. Murray is sales manager of the Everett Pulp & Paper Company with headquarters at 244 California Street, San Francisco.

DOUD GOES INTO BROKERAGE

Ira F. Doud has resigned as district manager at San Francisco for the Hawley Pulp & Paper Co. and is going into the paper business for himself as a broker, probably at 129 Sacramento St., handling specialty and staple lines in the northern California trading area.

CARTER, RICE ANNOUNCE PRICE ADVANCE

Charles Beckwith, San Francisco, Pacific Coast manager of Carter, Rice & Co. Corp., reports an advance in the price of rag content bonds from 1c to 3c per pound in the coast area.

H. H. Rominger, manager of the twine department at Carter-Rice coast headquarters at San Francisco, was in the Northwest in October and November working with the firm's offices there.

B. M. & T. TO RESUME CALENDAR

Not since 1931 has Blake, Moffitt & Towne, Pacific Coast paper jobbers, issued a calendar, but now announcement is made that for 1937 the company will have another of its big red calendars, graced by the firm's well-known trademark with its picture of the California bear. This bear trade mark was adopted by Blake, Moffitt & Towne years ago to tie-in with the fact that it, too, is a California pioneer, its San Francisco office having been opened in 1855.

MIELKE BACK IN NOVEMBER

Otto W. Mielke, San Francisco, general manager of Blake, Moffitt & Towne, Pacific Coast paper jobbers, is expected home late in November from a tour of the Orient which he made, with Mrs. Mielke, to visit their daughter, Mrs. Capt. Carlisle Dusenberry of Tien Tsin, China. The Mielkes saw, for the first time, their new grandson, Carlisle William Dusenberry, named after his father and his grandfather, Mr. Mielke's middle name being William.

COMMERCIAL PAPER NEEDS MORE ROOM

Marcus Alter of the Commercial Paper Co., San Francisco, says he is looking for quarters larger than his present plant at 248 Davis St., which the firm has occupied for eight years. They are now crowded in their present eight floors located in two adjoining buildings and may be moving in about six months.

Commercial Paper has taken on a new line of Eagle A Progress announcements from American Writing Paper Co. and printers' dry proofing paper from Badger Paper Co.

PHELPS TRANSFERRED TO SEATTLE

Kenneth Phelps of the accounting department of the San Francisco office of the Zellerbach Paper Co. has been transferred to Seattle to head the organization's credit department there. In the north he replaces R. Callison, who went to the San Francisco headquarters as assistant credit manager.

ZELLERBACH RETURNS FOR WEDDING

Harold L. Zellerbach, president of the Zellerbach Paper Co., returned from the east in October in time to attend the wedding of his daughter, Miss Rolinde, to Stephen Newmark Loew, Jr., Los Angeles. The wedding was an outstanding social affair at the Fairmont Hotel, San Francisco, with approximately 200 guests attending. The maid of honor was the bride's cousin, Miss Jane Saroni.

NO MORE ORDERS, PLEASE

W. F. Dallam, San Francisco, northern California representative of Fernstrom & Co., Stockholm news print brokers, reports he can take no more orders for 1937 deliveries to newspapers in his territory as the three Fernstrom mills are booked to capacity for next year. One of the mills, Stora Kopparbergs Bergslags, AB, at Falun, Sweden, belongs to company which has been in continuous existence under the ownership of the same family since 1288. The company originally operated mines and later switched to paper. Mr. Dallam gets his paper direct by steamship from Scandinavia and says he will have an easy job next year, having nothing to do but wait for the twice-a-month shipments. The '37 tonnage is greater than this year's.

GENERAL TAKES A STRAW VOTE

A straw ballot is being taken by mail among California printers by the General Paper Co., paper distributors of San Francisco, Oakland and Los Angeles, as a very novel advertising stunt.

The ballot and an accompanying folder are being sent to some 3,000 printers and on the folder are two beautiful large full-page pictures of Mt. Shasta.

These pictures are identical, but one was done by letter-press and the other lithographed. "What is your impression?" is the question asked on the return post card ballot and the printers will vote on whether they like the letter press job best or the lithograph.

Three sets of plates were made for this folder before everybody was satisfied that they brought out the best in the two processes.

The folder is on International Paper Co. paper.

NEW HAWLEY SAN FRANCISCO REPRESENTATIVE

Effective December 1st Al J. McKnight will assume the duties of representative of the Hawley Pulp & Paper Co., in San Francisco. Mr. McKnight is well known to the trade, having served as purchasing agent for the Pacific Manifold Book Co., Emeryville, Cal.

I. F. Doud, who has been the San Francisco representative of Hawley Pulp & Paper Company for several years, will enter the paper brokerage business.

L. A. MILL REPS PLAN CHRISTMAS PARTY

Members of the Los Angeles Paper Mill Men's Club gathered at noon Oct. 29 to talk over the successful Hi-Jinks held for the jobbers the previous month, and to plan future activities.

George Wieman reported the Hi-Jinks a financial success as well as otherwise, with funds left in the treasury.

President Edward N. Smith reported much interest on the part of San Francisco mill men in the activities of the Los Angeles group, and it was generally felt that the financial success of the Hi-Jinks would furnish the northern men an indication as to how they do things in southern California. The insinuation went unchallenged, no San Francisco representatives being present.

In future, Mr. Smith announced, the luncheon committees would be charged with arranging a special program for each bi-monthly noon meeting, presenting features of interest to all members.

The next meeting will be the November evening social gathering. The December meeting will be at noon, and will be the first annual Christmas party of the organization. A Christmas tree will be set up, 10 or 15 boys from some charitable institution will be invited as guests and will be given gifts, there will be speakers, songs, etc. Mill men will bring guests to the meeting if they so desire. Tentative appointments to the committee to handle this event includes Art Carlson, Ralph Reif and J. B. Jones.

The committee handling the October luncheon was composed of Newby Green, Louis Wanka and Al Hentschel.

ZELLERBACH PAPER NEWS

Harold Zellerbach, president of the Zellerbach Paper Co., visited the Los Angeles branch for a week or so early in November, arriving just after election.

Sidney Lee, manager of the consumer packaging department was also here at the time from San Francisco.

T. J. Finerty, general sales manager for the company, has been spending a month or two in Los Angeles, working with the sales department.

HENRY BURGEE A COAST VISITOR

Henry Burgee of the Parsons Paper Co., Holyoke, Mass., manufacturers of bond, linen and ledger paper, was in Los Angeles the first week in November, while on a tour visiting Coast jobbers.

ABRAMS FLIES EAST

Sam Abrams, head of the U. S. Paper Co., flew from Los Angeles to New York Nov. 5, for a hurried visit to eastern business centers.

MEGEL VISITS HAWLEY MILL

G. Dewey Megel, Los Angeles manager for the Hawley Pulp & Paper Co., is scheduled to make a visit to the company's mill at Oregon City, Ore., about the end of November.

GREAT FALLS PAPER COMPANY REBUILDING

The Great Falls (Montana) Paper Company opened bids October 17 for the construction of a new building to replace the structure destroyed by fire on July 3. It will be on the site of the old building.

According to James J. Flaherty, president and manager, the new office and warehouse will be a one-story brick and tile building, containing about 12,000 square feet and fireproof in every respect. Concrete floors will be on a level with box car floors, to facilitate loading and unloading of stock. Work on the new building was begun before the end of October.

THE TISSUE COMPANY

D. L. Maxwell, San Francisco, Pacific Coast representative and treasurer of The Tissue Co., reports that the slack season has come for the firm's converting plant located on the top floor of the Crown Willamette Paper Company at Camas. The Tissue firm makes paper napkins solely and its best period is in the summer, when there is a demand for napkins for picnics and outings. Jake Gigler is superintendent of the napkin plant at Camas.

LEONARD GETS PIN

William A. Leonard of the cutting department of the Zellerbach Paper Co. at Seattle has received a 25-year service pin.

IPI LAUNCHES STUDENT ESSAY CONTEST ON COLOR

Letters have been sent to teachers and principals in 1,200 schools offering printing courses inviting them to have their students participate in The International Printing Ink Corporation's essay contest on color.

This competition is the third step in IPI's program of color education, begun two years ago with the presentation of color lectures and followed up with the publication of the "Three Monographs on Color." It is open to pupils enrolled in printing courses in high schools and technical schools throughout the United States and Canada. Entrants must write a 600-word essay on the subject, "The Importance of Color in Printing."

The National Graphic Arts Education Guild, under the direction of Fred J. Hartman, is cooperating with IPI in sponsoring the contest. This organization's membership is made up of teachers of printing in junior and senior high

schools, trade, vocational, and technical schools.

Prizes in the contest are divided into two groups, local and national. In each school participating, three ten-dollar sets of the books, "Three Monographs on Color," will be awarded to authors of the three best essays submitted. Then one best paper from each school is to be forwarded to the National Graphic Arts Education Guild in Washington to be entered in a national competition. An impartial commission of judges headed by Henry L. Gage, vice-president, Mergenthaler Linotype Co., Inc., will pick the two best papers sent in. The winner will receive a \$400 scholarship to the Carnegie Institute of Technology's School of Printing and a trip to New York City. After he finishes his course of training, a job which fits his interests and capabilities will be found for him in the IPI organization. The runner-up gets a trip to New York.

It is planned to announce the local Monograph winners during National Printing Education Week (January 15-22). The Monographs will be presented to authors of the three best essays at every school, along with Printing Education Week ceremonies. National winners will be decided later, probably early in February.

According to an IPI official, "This contest should help to stimulate an interest in color among printing students. By encouraging these students to study fundamental principles of color and its application to the field of Graphic Arts, we hope that this competition will lay a foundation of sound color knowledge in the minds of these future printers of America."

SAVE ON FELTS

Every ounce you are able to reduce the pressure in your dryers the better off you are. And the one practical way to do that is to deliver your sheet to the dryer with less moisture in it.

All of which is the same as saying that you should adopt the felt that will do the best job of extracting ahead of the dryer—adopt certain numbers from the Orr line particularly suited to your requirements.

The line is complete and felt-ing specialists are quickly available.

THE ORR FELT & BLANKET CO.

PIQUA, OHIO

Pacific Coast Representative: WALTER S. HODGES
Pacific Bldg., Portland, Oregon

ORR FELTS

COCHRAN RETURNS FROM CONFERENCE

Andrew H. Cochran, representing the Mead Sales Company and affiliated companies, Dill & Collins Inc., and Wheelwright Papers Inc., returned from a six weeks' visit in the East the middle of October. Scarborough, New York, was the focal point of all sales representatives of this large organization, where a three-day session of mill executives and sales staff was held at the Briar Cliff Manor Lodge. Sixty men attended, head by Mr. George H. Mead himself. The meetings were conducted by R. I. Worrell, general sales manager of the Mead Sales Company. Round table discussions were held daily at which mill executives and sales managers of the various units took the lead. The latest developments in Mead produced papers for the publishing, jobbing and converting trades were thoroughly talked over, and the Mead promotion program was disclosed by H. S. Foster, advertising manager for the Mead groups.

Mr. Cochran visited the Dill & Collins mill at Philadelphia, the Wheelwright mill at Leominster, Mass., as well as the New York, Boston and Chicago offices of the group. A great deal of optimism was evident, for the immediate Fall season as well as for the coming year. For the year 1936 the estimated production by the Mead groups of fine papers only is 145,000 tons, as compared with the 1934 figures of 86,000 tons.

COAST MEN AT NATIONAL MEETING

Arthur W. Towne, Blake, Moffitt & Towne, San Francisco, flew both ways in attending the fall meeting of the National Paper Trade Association convention at Chicago September 21-23. Mr. Towne reports the attendance of several other Pacific Coast men, including Harold L. Zellerbach and Victor Hecht of the Zellerbach Paper Co., San Francisco; Kenneth Holland of the Carpenter Paper Co. of Los Angeles, and Charles Beckwith of Carter, Rice & Co. Corp., San Francisco.

TODD MANAGER OF MIDLAND PAPER

Harry P. Todd is manager of the Midland Paper company of Chicago, which was recently purchased by the Crown Zellerbach Corporation. Mr. Todd was formerly with the Ditto Company, makers of Ditto machines.

During the transfer L. J. McGrath and C. V. Gendron of the Zellerbach Paper Company of San Francisco, went to Chicago to put the Zellerbach policies into operation.

MERRICK JOINS TAPPI

The Merrick Scale Manufacturing Company of Passaic, New Jersey, makers of the Weightometer, has joined TAPPI.

Irving R. Gard of Seattle, Pacific Northwest representative of the company, will represent them in TAPPI.

HALL RETURNS TO OAKLAND

Whipple S. Hall, Manila paper importer, is in California for several months and has taken up a temporary residence in Oakland.

WUENSCHEL IN ERIE

J. F. Wuenschel, Pacific Coast sales manager for the Hammermill Paper Co., was in Erie, Pa., Oct. 27 and 28, attending a special meeting at his home office.

ALLAIR GOING TO CHICAGO

Chris J. Allair, San Francisco, Pacific Coast representative of the A. P. W. Paper Co. of Albany, N. Y., expects to go to Chicago between Christmas and New Year's to attend a sales meeting of his company's staff there.

STUART VISITS COAST

Kimberly Stuart, vice president and treasurer of the Neenah Paper Co., Neenah, Wis., was on the coast for several weeks in October, calling on jobbers from Seattle to Los Angeles.

VISITORS IN L. A.

Paper representatives visiting in Los Angeles during the month of October included C. P. Sheldon of the Northwest Paper Co., San Francisco; E. B. Skinner of the Martin-Cantine Co., and Wm. McCormick of the American Writing Paper Co.

WESTLUND GOES EAST

Elmer Westlund of the Rainier Pulp & Paper Company at Shelton, left for the East the middle of October to supervise the application of RAYLIG on a large road project in Maryland.

Before joining the Rainier organization early this year Mr. Westlund was with the Washington State Highway Department in an engineering capacity.

AMERICAN WRITING REDUCES LOSS

The American Writing Paper Company with headquarters in Holyoke, Massachusetts, reports for the nine months ending September 30th, 1936, a consolidated net loss of \$211,126 after taxes, depreciation, interest, etc., but before adjusting for non-recurrent expense items. Non-recurrent expense items amounting to \$172,519 and including \$56,533 for flood expense and writedown of \$644,070 resulting from the sale of Dickinson and Holyoke Divisions, were carried to the deficit account. This compares with a net loss of \$221,014 for the first nine months of 1935.

For the quarter ended September 30th, 1936, indicated net loss was \$88,641, against net loss of \$40,187 in the preceding quarter and net loss of \$94,999 in the September quarter of 1935.

WEST MARRIED

Bill West of the National Paper Products Sales Co., San Francisco, is a recent benedict, having gone to far Wyoming to marry Miss Marie Hocker. No longer is Bill a lone cowhand.

WEDDING BELLS

Miss Rose Caro, for some years a secretary with the Atlas Paper Co., San Francisco jobbers, is to be a November bride of Carl Schwartz.

ISLER VISITS MILLS

Phillip Isler, San Francisco, secretary of the Paper and Bag Institute of the Pacific Coast, was a Pacific Northwest visitor early in November.

TAPPI MEDAL AWARDED TO C. J. WEST

The Executive Committee of the Technical Association of the Pulp and Paper Industry has announced the award of its gold medal to Clarence J. West, editor of Publications of the Institute of Paper Chemistry, Appleton, Wis. This award is made from time to time to individuals, who in the opinion of the TAPPI Awards Committee and the Executive Committee (by unanimous consent) has made an outstanding contribution to the technical advancement of the pulp and paper industry.

In its nearly twenty-two years of existence this award has been made to but five individuals, namely to William H. Mason, inventor of the Masonite process; Ogden Minton, inventor of the vacuum pulp and paper drier; Ernest Mahler for the development of several paper making processes; Edwin Sutermeister for his work in paper making chemistry and to William Millsbaugh for his invention of the suction roll and related equipment.

That Dr. West is eminently qualified to receive this honor and distinction is well known in the industry and in the field of bibliography in general. The initial step in all real research is too find out what has already been done and discovered in a certain field in order to avoid duplication. Because of Dr. West's efforts along this line no industry has a more detailed and clearer record of its technical and manufacturing accomplishments than the medallist. From 1900 to date this record has been built up and made available to the industry for the benefit of its engineers and other research men.

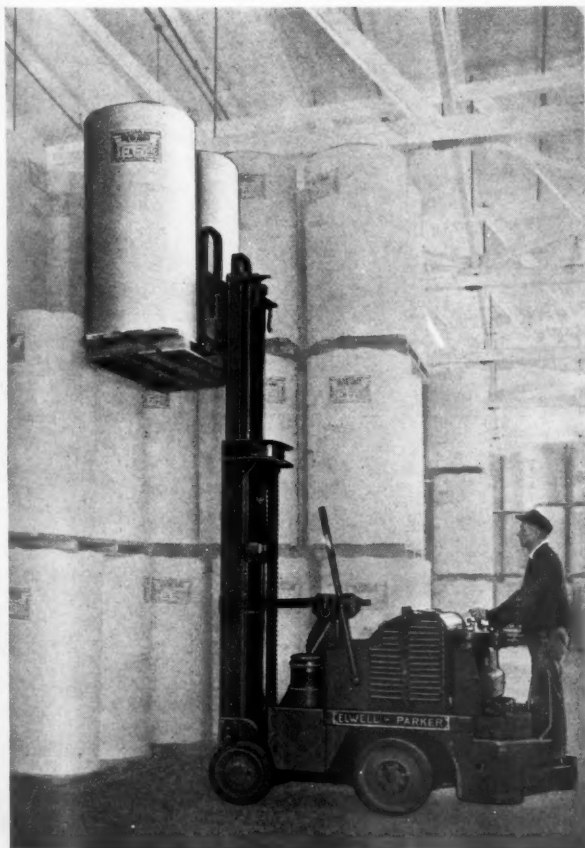
Dr. West began this work as head of the research information service of Arthur D. Little, Inc., in Cambridge. The work was continued for the benefit of the country during the war by him as Lieut. Col. of the Chemical Warfare Service and since then until this year for the benefit of research investigators in all lines of scientific activity as head of the research information department of the National Research Council in Washington, D.C.

Dr. West has edited many outstanding scientific books, most noteworthy of which being the Critical Tables, a fifteen volume masterpiece giving the physical and chemical constants for all known materials. This has been a world wide activity and a necessity to enable workers, particularly in pure science to extend knowledge in the realm of scientific data.

As chairman of the TAPPI Committee on Abstracts and Bibliography and as an abstractor for the famous Chemical Abstracts he has saved time of countless technical men who needed to be kept informed concerning the accomplishments of other investigators in all nations of the world.

Dr. West has recently joined the staff of the Institute of Paper Chemistry as Editor of Publications and in this capacity will be able to give his full attention to the compiling and analysis of the literature relating to the pulp and paper industry.

The TAPPI medal will be presented at the annual meeting of the Technical Association of the Pulp and Paper Industry at the Waldorf-Astoria Hotel in New York, February 22 to 25, 1937.



72" Rolls Tiered 3 High!

• Here's the way a wide-awake manufacturer of newsprint on the Pacific Coast uses an Elwell-Parker Power Industrial Truck.

In this plant, rolls of finished newsprint are conveyed to the storage house and mechanically set on stout cargo boards or pallets. See picture at left. Two 72" rolls or 4 half-rolls are handled as a load unit by the Elwell-Parker Fork Truck, which picks up pallet and load as a unit and TIERS THEM THREE HIGH in storage—18 feet, plus height of boards. The same Truck reverses the process when reclaiming the stock for shipment.

This method prevents damage to paper by bruising; facilitates mass increases in production by keeping floors open for traffic, thus speeding transportation; and permits Management to use *cubic* areas of storehouses by tiering to the roof and turning "air rights" to profit.

Your nearest Elwell-Parker Engineer is prepared to prove that the System can be adapted to your needs at large savings corresponding to those realized in the plant shown here. May we send him? Elwell-Parker Electric Company, 4231 St. Clair Avenue, Cleveland, Ohio.

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TENAX FELTS have a remarkable record of satisfactory performance throughout the paper-making world. For 44 years we have been cooperating with technical engineers, anticipating the needs of the trade.

Again, with superintendents and production crews in putting these requirements into practice. Thus, in TENAX FELTS they have the felt suited to their requirements.

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KEEPS SLOTS CLEAN AND MAINTAINS
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